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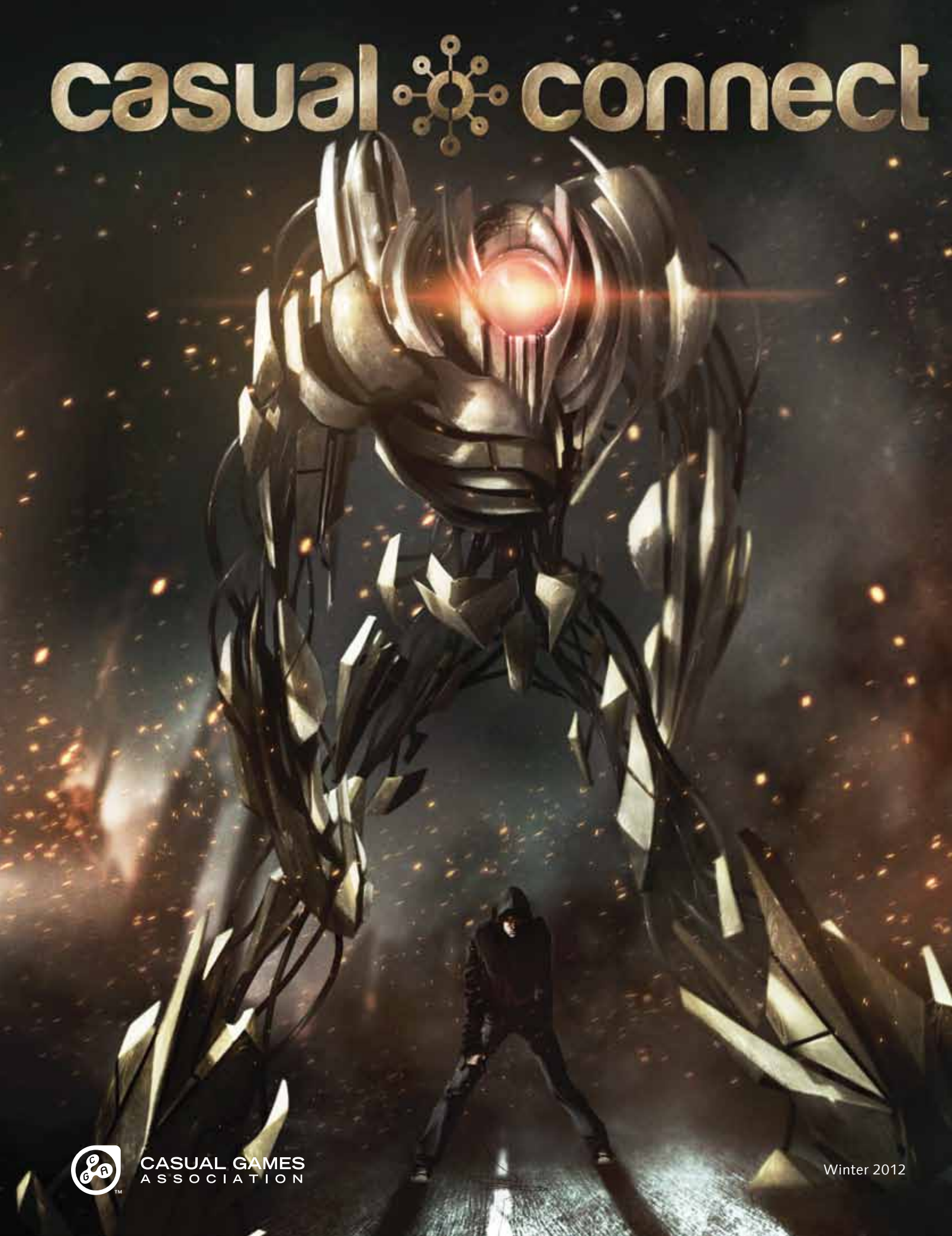

CASUAL GAMES ASSOCIATION

Winter 2012

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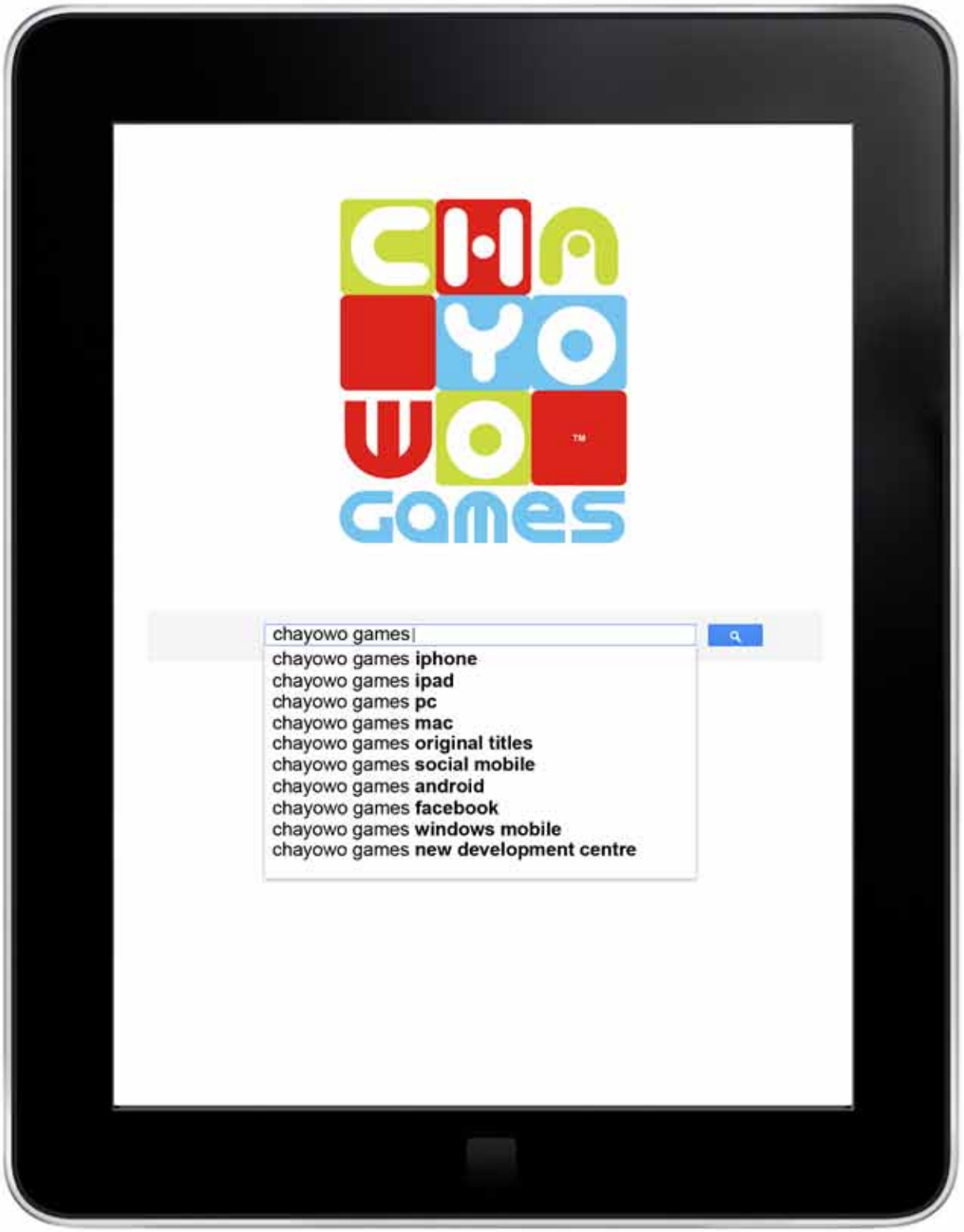


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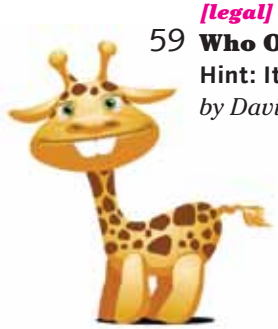

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Casual Connect Magazine *(http://casualconnect.org/magazine-archive/)* is published three times yearly by the Casual Games Association *(http://www.casualgamesassociation.org/),* P.O. Box 305, Smithfield, UT 84335. Casual Connect Magazine is postal mailed to over 17,000 game industry professionals and members of the press.

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# Letter from the Director

You remember *Musical Chairs*, don't you? It's a friendly little parlor game with a simple concept: Say you have 10 guests at your party. You place nine chairs in a circle with their backs toward the center of the circle. Then everybody at the party walks around the chairs while the music plays. When the host turns off the music, everyone scrambles to sit down in a chair—and whoever ends up without a place to sit is eliminated. Then you remove one chair and repeat the game—and so on until finally there is just one chair and two people left. It's a fun game with just enough good-natured pushing and shoving to make it as fun to watch as it is to play.

The casual games business used to be like *Musical Chairs for Dummies*, as if there were 10 guests and 13 chairs to choose from. There was hardly any need to push and shove, because everyone was winning and making money. That's a whole different sort of fun altogether.

But that game couldn't last forever, could it? Our industry has matured. Margins have tightened, competition has intensified. And friendliness is on the wane. We're learning that when you play *Musical Chairs* for money, the pushing and shoving isn't be very good-natured, and there's nothing fun at all about being eliminated or otherwise forced to watch everyone playing without you.

Even when new platforms emerge, it seems that the chairs fill up fast. Investment money that was once so easy to come by is now more elusive.

Even so it seems that, every time we face one of these moments of hyper-competition in casual games, a new opportunity emerges. Someone invents a new revenue model or a new platform comes into vogue. And before you know it, a new game has started with plenty of chairs available to those who run to get in early.

So let me ask you: What sort of player are you? Are you seated comfortably in a chair but worried about who might take it from you? Or do you find yourself standing on the periphery trying to figure out how to become a legitimate player? Are you doing well in the current game or hoping for a new game to open up?

This much is certain: There is plenty of money to be made if you are playing in the right circle. And when new opportunities open up, someone is going to make a lot of money off of them as well. The one thing that won't change is this: The winners will be those who react quickly.

So sit down. Read some articles and listen to some lectures and discuss with your colleagues and friends so you will be ready to jump at the next opportunity.

Jessica

Jessica Tams, *Director of the Casual Games Association*
***jessica@casualconnect.org***

## EVENT CALENDAR

**7-9 February 2012** — **Casual Connect Europe**

Congress Center Hamburg
Marseiller Straße 1
Hamburg, 20355
Germany

**22-24 May 2012** — **Casual Connect Asia**

Suntec 3rd Floor
1 Raffles Boulevard,
Suntec City, Singapore

**24 - 26 July 2012** — **Casual Connect Seattle**

Benaroya Hall
200 University St.
Seattle, WA 98101

**October 2012** — **Casual Connect Kyiv**

RUS HOTEL
4, Hospitalna Street
Kyiv, 01601 Ukraine

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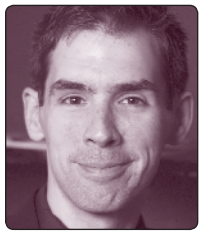

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**Yan Marchal**
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In 2003, irresistibly attracted by entrepreneurship and by the charms of Asia, Yan left Paris for Bangkok and founded Sanuk Games. In a couple of years, Sanuk Games established itself as a prominent console game developer and digital publisher, with over 50 games released in the past couple of years.

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Andy Satterthwaite is the Executive Producer at Sidhe (and its mobile division, PikPok). He has been producing and/or designing games for over 18 years, including such classics as *Wipeout2097, Colony Wars, Quantum Redshift, GripShift, Shatter* and *Monsters Ate My Condo*. He lives in Wellington, New Zealand with his wife and two sons.

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'Ran' Si Yuan Wong is 29 this year and has worked for Boomzap for 2.5 years. He has worked on three released projects since joining in 2009. He lives in Singapore and leads the *Awakening project* team when not busy gaming or goofing off. Often called 'Little Chris' much to his chagrin.

**Singapore**

**Edgar Gomez**

As a conceptual and digital artist, I love working detail and expression into my paintings. Thus I gave myself the task of reflecting this passion in the cover art.

Every game looks to create an immersive experience for the user—although only some succeed. In this painting, I sought to represent that immersive experience—the moment in which gamer and game character are one. It's that point in which the user not only handles everything from his game-pad, but lives the experience with all its feelings: adrenaline, hate, love, fear, friendship, happiness.

In the specific case of this cover painting, the immersion comes in the heat of battle, when both the player and his mecha find themselves in the same position at the same moment.

*Edgar Gómez is a freelance digital artist who also works in the art department at Mantiz Game Studios (www.mantizgs.com). You can find more about Edgar's work in www.edgargomez.net*

# HEADLINES OF

## Big News in Casual Gaming 2011

### *The Sims* Gives Zynga a Run for Its Money

While Zynga has ruled the roost for some time on Facebook, 2011 was the year it finally saw some real competition for the No. 1 slot. EA released *The Sims Social* back in August, and at its peak the game was drawing more than 65 million monthly active users. And while the game has since dropped to less than 28 million MAU, *The Sims Social* still sits in the top five most trafficked games—right behind *CityVille, CastleVille, FarmVille*, and *Texas HoldEm*. On second thought, maybe Zynga still rules the roost after all.

### Steve Jobs Passes Away

A lot of words have been used to describe Steve Jobs. Words like "genius," and "visionary." And while those are lofty words to live up to, if you've worked in the casual games industry in the last few years you know how applicable those words really are. With the creation of the App Store, Steve didn't just redefine what mobile gaming could be—he created a market that allowed anyone with a game and a dream to see their games reach an audience. With his passing, there's been a lot of chatter about what this might mean for the future of Apple. While the immediate future looks just about as golden as the recent past, it's impossible to know how well Apple might maintain its dominance in the long term without Jobs at the helm.

### East and West Social Gaming Companies Come Together

When it comes to the social side of gaming, East has seemed pretty determined to meet West in recent years. The trend started in 2010, when Japanese social giant DeNA acquired ngmoco for upwards of $400 million. Their goal? Essentially to merge DeNA's Mobage network with ngmoco's Plus+ network to create a global Mobage brand. But what does this have to do with 2011? The fact is that we saw the exact same situation occur when GREE purchased OpenFeint for $104 million. The deal took place back in April, and since that time GREE has announced that this new partnership will result in—you guessed it—a new global social gaming platform to launch sometime in 2012.

### HTML5 Establishes a Mobile Foothold

When Steve Jobs decided against allowing Flash to run on the iPhone, it seemed as though the entire tech world was left scratching their heads at the decision. Then when he decided to blog about this move to better explain it, and to explain why he was backing HTML5 instead, some people thought he'd finally lost his mind. "The mobile era is about low power devices, touch interfaces and open web standards—all areas where Flash falls short.... Perhaps Adobe should focus more on creating great HTML5 tools for the future." As often happens with genius, time has proven Steve Jobs right. Not only have companies as big as Facebook put their weight behind the world of HTML5 gaming, but even Adobe—the company Jobs said should "focus more on creating great HTML5 tools"—is doing just that. Adobe has officially suspended development on their mobile Flash player to, in their words, "work with key players in the HTML community... to drive HTML5 innovation."

### Casual Connect Goes to Asia

After seven years and 20 conferences, Casual Connect is adding a fourth event to the yearly Casual Connect conference series: Casual Connect Asia in Singapore! We have seen dramatic changes in the casual games industry. And with these changes comes the need to connect with partners from all over the globe.

Please join us May 22 -24, 2012 in Singapore. Speakers from over 20 countries will speak about Social, Mobile, Design, Production and Growth & Exit Strategies, including in depth workshops from Adobe, MIT Gambit, Flash Gaming Summit and Unity. Confirmed speakers include Facebook, GREE, iBiBo-Tencent, Happy Elements, The9, Microsoft, Ubisoft, PopCap, Gamevil, Natural Motion, IUGO, Com2us, 6waves, IndiaGames, Amazon and Adobe. And of course networking parties to round the event out. Watch for your invite from Big Fish Games!

# THE YEAR

## Mobile Movie Tie-ins Done Right

Games based on movies are, with a few exceptions, terrible. And games made exclusively to promote movies are usually the worst of them. But in 2011, Hollywood seemed to have finally wised up. Instead of creating low budget messes with no-name developers who can bang out a project in two weeks, film studios have reached out to the developers of popular mobile franchises and looked for a way to slip a piece of marketing magic into already winning formulas. As a result, mobile gamers in 2011 were treated to delightful releases like *Angry Birds Rio, Fruit Ninja: Puss in Boots,* and *Doodle Jump: HOP The Movie*.

## Google Gaming Hits Desktops

While Google had already made a name for itself in mobile gaming thanks to its Android platform, the big G remained shy about gaming on desktops until 2011 rolled around. Since then, Google's Chrome Web Store has exploded into a mini-gaming phenomenon, offering a selection of games that players might otherwise have only found on Facebook or on smartphones. Likewise, the Google+ social networking service has offered Facebook-weary gamers a place to enjoy great social titles like *Triple Town* and *Gardens of Time*.

## Electronic Arts Buys PopCap Games

EA is known for its long history of acquisitions, but it came as something of a surprise that PopCap was up for sale. The house that *Bejeweled* built was acquired for $650 million in cash and another $100 million in stock, though it's been reported that an earn-out bonus could bump the total value up to $1.3 billion if PopCap manages to turn a high enough profit. EA wasn't the only buyer to come knocking either. *The New York Times* has recently reported that Zynga tried to purchase PopCap for $950 million but was turned away because of its stressful corporate climate.

## The *Angry Birds* Marketing Machine Consumes Us All

If 2010 was the year of *Angry Birds* the game, 2011 was the year of *Angry Birds* the product. Things seemed to start off innocently enough, with t-shirts, plush dolls and the like. Then Mattel announced the *Angry Birds: Knock on Wood* tabletop game. Then came the Halloween costumes. And the vending machine toys. And the Christmas stockings, and 3D posters, and fridge magnets and red rubber balls and… and… it never stopped. There's even a cookbook: *Bad Piggies' Egg Recipes*. While it's easy to criticize, I could really go for an omelette right about now.

## Zynga Goes Public

After a year of speculation and fanfare, Zynga finally went public, a mighty feat for a company that did not exist just four years ago. On day one, Wall Street's response to Zynga was, at best, lukewarm, with the stock price dropping to $9.50 (below its $10 opening price). Zynga is the canary in the coal mine for social and mobile game companies that plan to go IPO or want to be acquired at a bubble-like valuation. Whither Zynga goes, so does anyone else with hopes of going public in 2012. ❊

*For more fine thoughts from Jim Squires and reviews, previews, game games, and news for casual games on the most popular platforms and devices, check out Gamezebo at http://www.gamezebo.com.*

# New & Notable

by Sina Kaufmann; *Head of Communications and Partnerships, Wooga;* ***Berlin, Germany***

# Emotional Brainiacs

## The Creative Analytics Behind Wooga

***Wooga?!*** **Had you** come across this name just two years ago, you would probably have thought more about an African state than about a social gaming company from Berlin. Indeed, Wooga has made incredible headway in the last three years, becoming the Number 3 social games developer in the world. With six games available on Facebook, about 40 million monthly active users, one HTML5 game, and another iOS game, Wooga dominates the social gaming scene in Europe while doing its best to challenge the industry leaders.

Those at Wooga believed that "playing" was a basic human need, not yet fully satisfied by the market.

### Games for Everyone

When Jens Begemann, Patrick Paulisch, and Philipp Moeser first founded Wooga in early 2009, their idea was to develop games that would appeal to everyone. Under their model, players could engage with their friends in an inherently social way, fostering easy interaction even when not in the same place. A key factor in development was that those at Wooga believed that "playing" was a basic human need, not yet fully satisfied by the market.

The story behind Wooga then, is actually fairly intuitive. It wasn't the woogoo, magic wands or monster espresso that were responsible for Wooga's growth. It was with a combination of emotional character development, an intense analytic system, a healthy company culture, and the trust in the right people that Wooga began its entrance into the world of gaming.

### Tough Competition

One of the first decisions we faced as a new company was where to release our first game. Facebook was the obvious first choice, but it would require taking on two Goliaths; Zynga and Playfish. We wanted to tap into a network that would connect users and invite novices of all kinds. Ultimately, the founders decided not to release their games on Facebook, as it was too crowded, and they chose instead to focus on the small, local social networks. Things didn't exactly turn out that way, however.

Wooga's first employees created *Brain Buddies*, which allowed players to challenge their friends in simple contests of memory, concentration, logic and visual ability. By pairing fun characters with quick, challenging tasks, they created a product that impressed even the harshest critics within Wooga—enough to cause the founders to rethink their original business plan. With a loose adaptation of Frank Sinatra's "New York, New York," CEO and Founder Jens justified his ambitious decision to go ahead and give Facebook a try when he joked, "If we can make it there, we can make it anywhere."

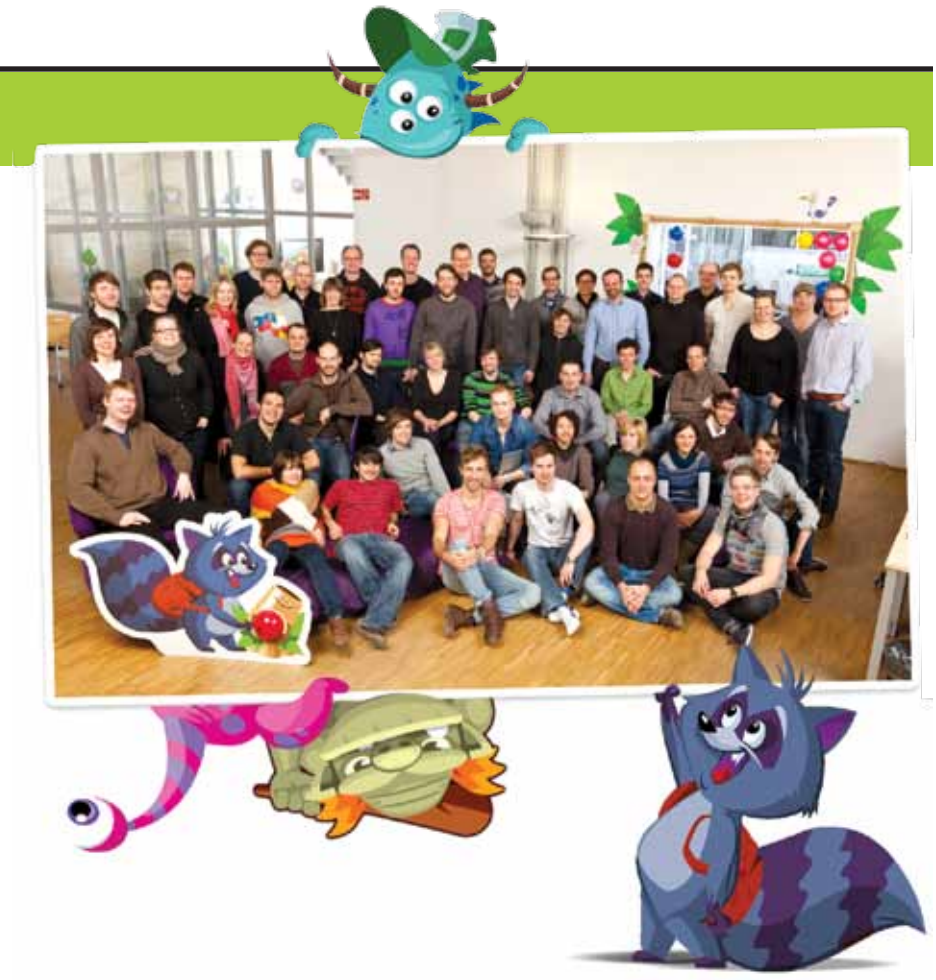
*Brain Buddies* beat the odds and found tremendous success with its first release. Users from Fiji, Turkmenistan and 148 other countries became fascinated with the mini-games

and entertaining graphics. By the end of the third week, there were one million *Brain Buddies* users. By September, 2009, it was ranked among the Top 25 Facebook Games. To this

day, over 30 million users that have entered the world of *Brain Buddies*.

Until this point, Wooga had been running on the founders' savings, but more cash was needed to fuel growth. In October, 2009, London-based Balderton Capital and Germany's Holtzbrinck Ventures invested $75 million in Wooga, giving the company the freedom to grow faster and explore the challenges and rewards of multiple, social game genres.

But before new games were launched, we faced a daunting challenge: Wooga saw a dramatic decrease of user numbers after Facebook limited viral-distribution in November, 2009. Monthly active users dropped from six million to three million in only eight weeks. Morale took a big hit, and we were forced to face the fact that we had better place greater focus on retention and worry less about trying to make our games go viral.



### The Magic of the User Experience

Wooga developed a variety of games that became successful because we recognized how our heads and our hearts worked together. Our hearts found a way to invent characters that were capable of evoking a sense of emotional attachment, while our heads carefully measured the analytics behind the weekly, split A/B testing that ensured high user satisfaction and retention.

The final product impressed even the harshest critics within Wooga—enough to cause the founders to rethink their original business plan.

Wooga's second game, *Bubble Island*, became our first example of how the developers could change components of the game to better match the desire of the users… after the game launched. In *Bubble Island*, players test their ability to burst bubbles of matching color with the help of a lovable raccoon. The game has an arcade focus but has embedded within it a deeply developed character. Initially,

# The Creative Analytics Behind Wooga

the animated raccoon, who shows his joy when the player wins (and cries when the player is failing), was enough to evoke a response from users. Yet players still lacked a long-term connection to the challenges of the game. Consequently, the developers created a storyline amongst the levels and found, through weekly analysis, that the storyline greatly enhanced retention.

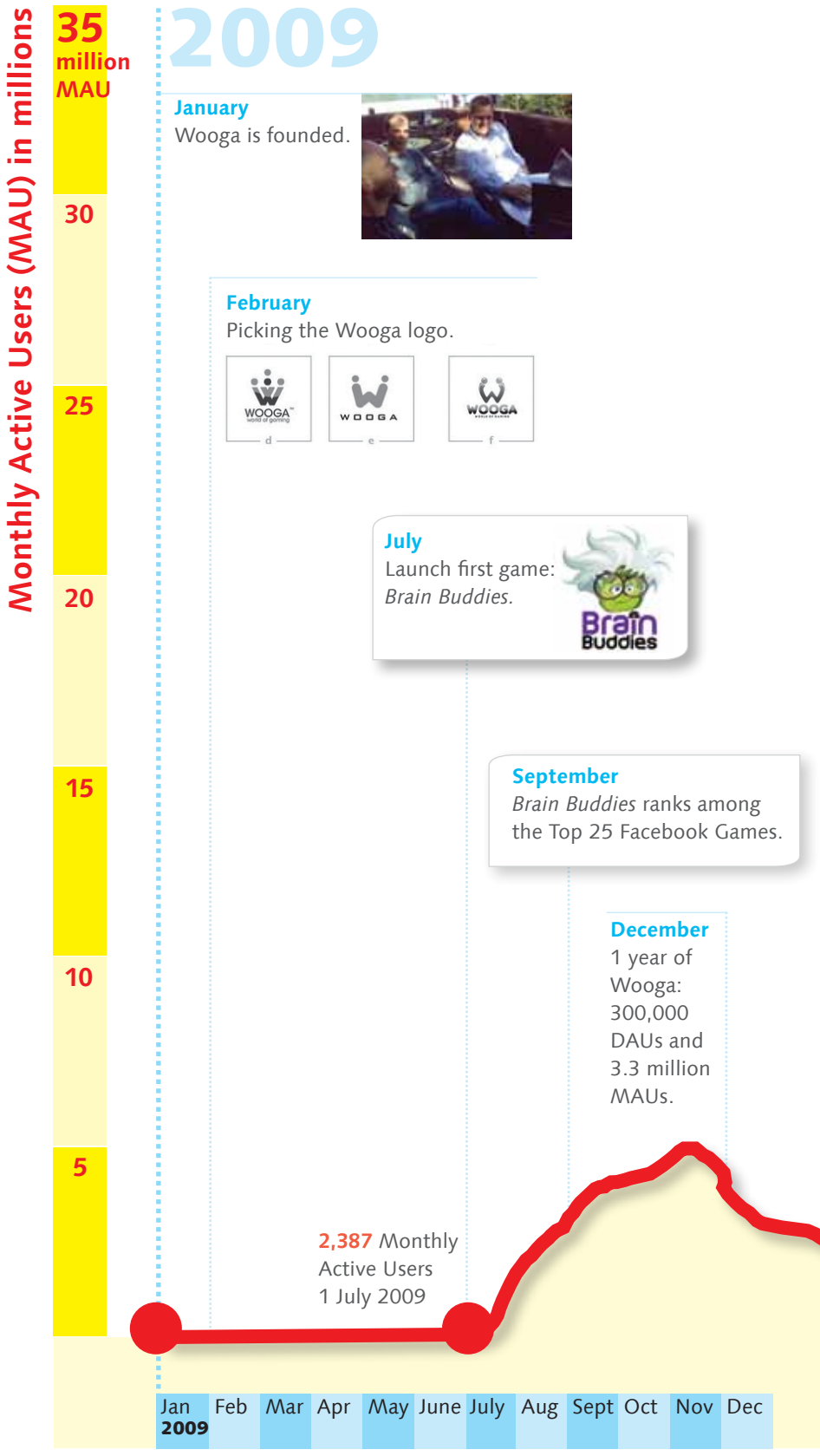
*Monster World*, launched in May 2010, was another example of the success of combining feeling and analytics. Users adored the strangely lovable monsters and the concept of cultivating a magical garden, but the game we know today came as a result of a series of trials and errors. (For more on the development of *Monster World*, see the article in the Summer, 2011 edition of *Casual Connect*.) The developing team was excited to implement new features, but it was only through weekly user testing that we determined which features players found truly important. The end result was a game that about seven million *Monster World* farmers enjoy each month.

## Reaffirming Our Guiding Principles

After a hefty round of investments totaling over $24 million in May 2011, we stopped to take a good, hard look in the mirror, to reaffirm our foundation and set future goals.

We recognized the importance of remaining atypical within the social gaming industry. As we created a sustainable creative environment, we were at an advantage because we were recruiting for Berlin—an international city filled with unique, progressive and youthful talent. True to our surroundings, Wooga has a multicultural spirit, method and practice. Employees from over twenty different countries encourage a diverse dialogue among people from all backgrounds and levels of experience.

We also knew that people loved our games. *Diamond Dash*, launched in March 2011, soon became our most popular social game with over 12.4 million monthly active users who returned again and again to the fast-paced, diamond-bursting challenge. The popularity of *Magic Land,* an interactive adventure that allows users to rule their own kingdoms, signaled Wooga's step into the big league of social game developers. A



# 2010

**February**
*Bubble Island*, Wooga's second game, is launched.

**May**
*Monster World*, third game, is launched. Wooga boasts over 1 million DAUs.

**August**
*Bubble Island* wins the European Games Award for Best Social Game.

**November**
*Happy Hospital*, fourth game launched.

**2,737,477** MAU
1 January 2010

# 2011

**January**
**2** years of Wooga. **#1** among European social game developers and **#7** worldwide with **15** million MAUs.

**March**
*Diamond Dash* is launched

**April**
Wooga overtakes Playdom to become **#4** in the world with **20** million MAUs.

**August**
*Magic Land* is launched.

European Games Award 2011 for Best Publisher and Best Social Game (*Diamond Dash*).

**11,485,985** MAU
1 January 2011

**October**
1st Mobile Game launched: *Magic Land* Island in HTML5 (both for iOS and Android).

**December**
*Diamond Dash* for iPhone, iPad and iPod-Touch launched.

**35,035,056** MAU
31 December 2011

Jan **2010** | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec

Jan **2011** | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec

# The Creative Analytics Behind Wooga

strong presence in the social gaming market allowed for our expansion, yet also required greater responsibility to constantly reinvent features for our fans.

The added pressure could have had a negative influence on our positive company culture, but the opposite occurred. Instead, our guiding principles of supporting both individual and team growth remained untouched; employees were still encouraged to utilize their creative energy and avoid any predictable mold. We all wanted Wooga to succeed in creating lasting games—because we were devoted to Wooga's development with both our minds and our hearts.

## Next Up: Social Mobile Games

The distribution of mobile games marks a new stage for Wooga as we cross over into a multi-platform dimension. Our first endeavor, *Magic Land Mobile,* is a HTML5 version of *Magic Land*; it launched on Facebook's updated mobile apps and mobile site in October, giving our players the opportunity to play from their smartphones and tablets whenever and wherever they want. We see our investment in this new technology as an investment in the future—which we expect to be a bright, cross-platform future.

Then in December, 2011, we launched *Diamond Dash* for iOS and iPad. Though only several weeks old, the multi-platform mobile app

has shown outstanding success, with well over five million downloads already. To Wooga, the *Diamond Dash* app foreshadows Wooga's presence across all social media platforms, giving an idea of what Wooga has in store for 2012, in the app store and beyond.

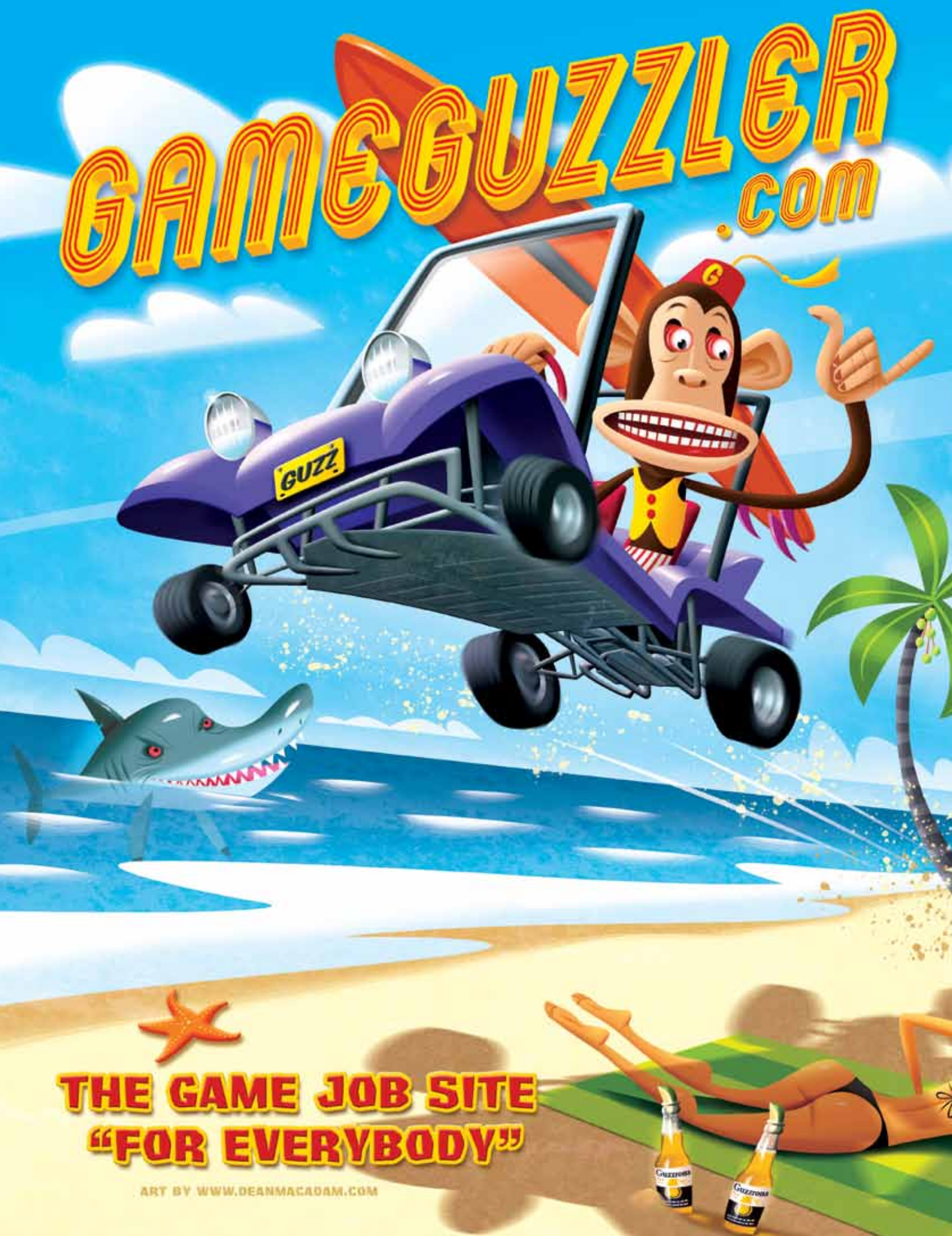
## Wooga Philosophy 101

Any startup in the technology and gaming industry must be comfortable with uncertainty and with the need for constant innovation. The social environment and platforms through which we perform are unpredictable by nature, as new competitors invent novel ideas and old foes redevelop their expertise. At Wooga, we are confident in our mission to improve the user's experience through a system of trial and error, to choose retention over virality, to develop depth in our characters, to improve games on a weekly basis, and to localize our games to appeal to a worldwide audience. In the New Year, we will continue to reinvent our

**True to our surroundings, Wooga has a multicultural spirit, method and practice. Employees from over twenty different countries encourage a diverse dialogue among people from all backgrounds and levels of experience.**

games to ensure the highest satisfaction for Wooga players.

Despite flux in the industry, one vital aspect of company culture remains steady for Wooga: Working at Wooga is about growing every employee's skill-set and welcoming the most far-fetched individuals. It is along the spectrum from creative to analytical minds that we find ways to nourish this special environment, inspire innovation, and to remain optimistic about Wooga's budding future in curing new diseases, cultivating new gardens, blasting more diamonds, and ruling the mobile kingdom. ❊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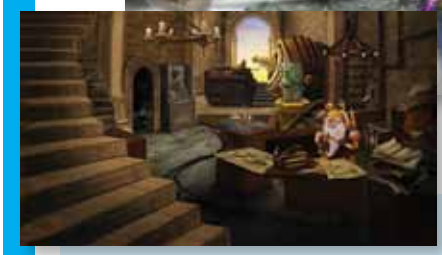
# A Picture is Worth a Thousand Words

# *Awakening: The Goblin Kingdom*

*Awakening: The Goblin Kingdom* is the third title in the fantasy hidden-object adventure series, *Awakening*, created by Boomzap Entertainment and published by Big Fish Games. Despite numerous setbacks and a shaky start, the game was completed precisely on time in spite of a tight eight-month schedule, and it occupied the No. 1 spot on Big Fish for nearly three weeks. After its release, we gathered key members from the team and discussed insights and lessons learned during the process of development.

STARTING OUT

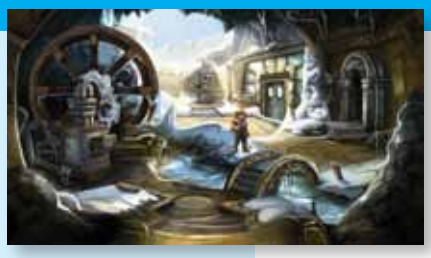
Back in the early design stages of the *Awakening* story, we intended for Princess Sophia to visit fantastic, themed places—one unique setting for every title in the series. The first game, *The Dreamless Castle,* had the princess exploring a grand, abandoned castle. She then went off in search of her fellow humans, and her journey took her to the enchanted forests of *Moonfell Wood.* For the third game, she would visit *The Goblin Kingdom,* and for this we imagined snowy, frozen mountain peaks—a winter wonderland of sorts.



For *Goblin Kingdom*, the team toyed around with the idea of "steampunk meets magic." The goblins are naturally very technologically inclined, but they live in a world where everything still runs on magic. One of our core ideas was the "train station"—it became the basis of our architecture and the aesthetics for the art team to work on.

by 'Ran' Si Yuan Wong;
*Designer, Boomzap;*
***Singapore***

We'd gone through a lot of iterations of Goblin architecture trying to get the look right. Initially, our Meso-American influences were a little heavy—it looked like players were in a Mayan temple! We lost two months' worth of art because of constant revisions, veering in one direction and then in another, and finally we threw everything down the drain and decided to start again. This frustrated the lead artist, because the Medieval Romanesque architecture that we eventually settled on was something he had proposed at the very start of the design process.



GOING FORTH

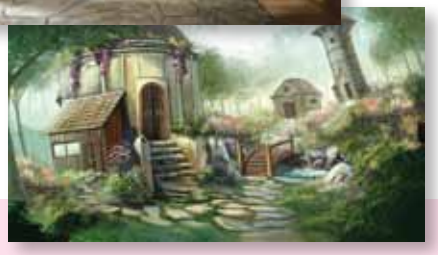
Creating highly-anticipated sequels is never easy. Expectations rise, competitors constantly come up with flashier, more innovative and prettier games. Iterative testing was vital, and we have to thank the folks at Big Fish for keeping their finger on the pulse of the community and providing us with valuable feedback during the game's development cycle.

Since this was the third title in the series, we were able to apply lessons we had learned from previous projects into building the game. To speed up the art production, we observed the strengths of each individual artist and assigned them tasks that best suited them. One artist is great at environments and at creating dynamic angles, so we assigned him the open spaces and wide, sweeping landscapes. One artist particularly enjoys drawing monsters, so we set him out to create the characters in the game, such as goblins and gnomes.

# *Awakening: The Goblin Kingdom*

In this game, we introduced the "gnomes"—a tribal people who are inspired by native American-Indians and who live with nature rather than technology. They help Sophia after she escapes her imprisonment. Another thing we enjoyed was expanding on the characters and personalities of the goblins. As with any civilized culture, you get all sorts. Bringing across the various personalities of goblins in this game was a lot of fun.

There was a lot of inspiration going around at the time and a fair share of cheekiness to go with it. (Confession: Some goblins are caricatures of the Boomzap bosses.) This boosted team morale and provided a lot of laughs during the otherwise tense development process.



The road to *The Goblin Kingdom* was a rocky and rough one indeed. Other than maintaining aesthetic integrity with a freshly assembled art team, the major problem came when the lead artist left the company before the game was done.

This left the art team scrambling to fill the void he left, and it wasn't easy. We hired new staff and spent long hours training them. Much of the new artwork required frequent paint-overs to match the artistic style of the lead artist—so that the second half of the game wouldn't look completely different from the first half. The art team struggled, but they beat the deadline, proving that no one is indispensable.

NEW COMPANION

One of our "greatest" challenges was actually replacing Mira, who was the fairy helper for the last two games. She proved to be not very popular, so we struggled to come up with a new personality that was less grating and more humorous and likeable. We observed the immense popularity of the little Pocket Dragon, who was introduced in the second game. Building on our target audience's fondness for pets, we wanted to create another animal companion who would be knowledgeable enough to provide guidance. The obvious choice was an owl: Randolph (a.k.a "Ran").

Ran's caustic, rapier wit and adorable fuzziness made him a big hit with the test market. We also boosted the pocket dragon's "cuteness" factor by making him purr whenever the player picked him up. After the game was released, some fans even wrote to us requesting plush toys of these two furry companions!

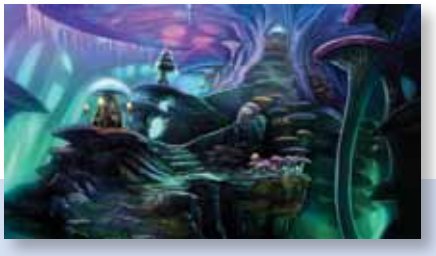
BONUS CONTENT

The approval of *The Goblin Kingdom* as a Collector's Edition posed yet another challenge. We asked our target audience what they were looking for in a bonus chapter of a Collector's Edition, and the consensus was that: (1) they wanted it to be meaningful and part of the story, *but* (2) they wanted a complete and satisfying resolution in the main story, *and* (3) they wanted the bonus chapter clearly different from the main story so that it didn't seem like we ripped some game-play out of the standard edition and reinserted it as "the bonus chapter" in the CE.

The solution to our problem was to add an epilogue that provides some significant information about the story but which can be removed while still maintaining a full story arc. The epilogue provides an additional destination to Princess Sophia's journey, while she travels from point A, the Goblin Kingdom, to point B, the next setting in the series. It's fun and makes the CE worthwhile, but ensures that the SE will still have a full and satisfying resolution to the main story.

# *Awakening: The Goblin Kingdom*

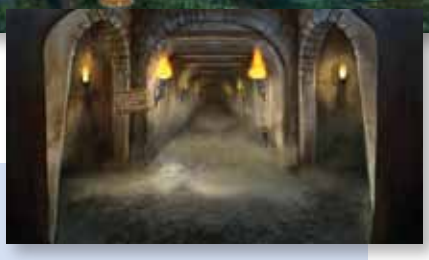
THE WORLD
Telling the story of an entire kingdom in a compact game like this is always challenging. Rather than bore players with lines of text, we added many visual cues to the world instead. Players can connect the dots when given a mix of story and scenes.



BALANCING FRUSTRATION AND FUN
One common complaint is that our mini-games are normally "too easy." As with other *Awakenings*, our goal when designing mini-games was that they not be too "frustrating." Mini-games had to challenge players to think about the solution while interpreting hints that could not be too obscure.

The story that a puppet king is beginning to stir up trouble, and Sophia has to stop him, makes this a sort of fantasy war-story. We tried to tell the story of those people caught in the middle—those just doing their jobs, trying to get by.

We created a series of mini-game types that teach players the basics the first time they're encountered; then we slowly scale up the complexity of these mini-games over the course of the game.



For example, players are given directions to get through the first hedge maze, but the tavern cellar requires players to first discover the direction indicated by the magic torches, then navigate based on that knowledge.

CONCLUSION

*Goblin Kingdom* has been a very rewarding project. A lot of love and inspiration went into the game from so many directions and yet it all worked out. Despite the sudden loss of a critical key member, and a tight deadline, the rest of the team pulled together admirably and produced one kick-ass game. Now if only we can exceed the high standard set by this game in the sequel.... ❊

By the Numbers

# Mathematical Analysis of *Snakes and Ladders*

**If you're a parent,** the chances are high that you have spent quite a few hours playing the board game *Snakes and Ladders* (or *Chutes and Ladders* as it is known in the USA). It's a simple game with origins that can be traced back to the 16th century. There's no skill required to play, so for parents games seem to go on forever! But just how long does an average game really last? This article will explore two mathematical methods for determining that answer.

Although performing analysis of a simple child's game like *Snakes and Ladders* might seem trivial, I hope it will demonstrate beneficial techniques you can apply to the analysis of the more complex games you are developing. For example, if your game involves the use of some form of currency, and you have not correctly modeled some aspect of your game, or if your probabilities are too loose, the resultant flood of currency could cause rampant and undesirable inflation.

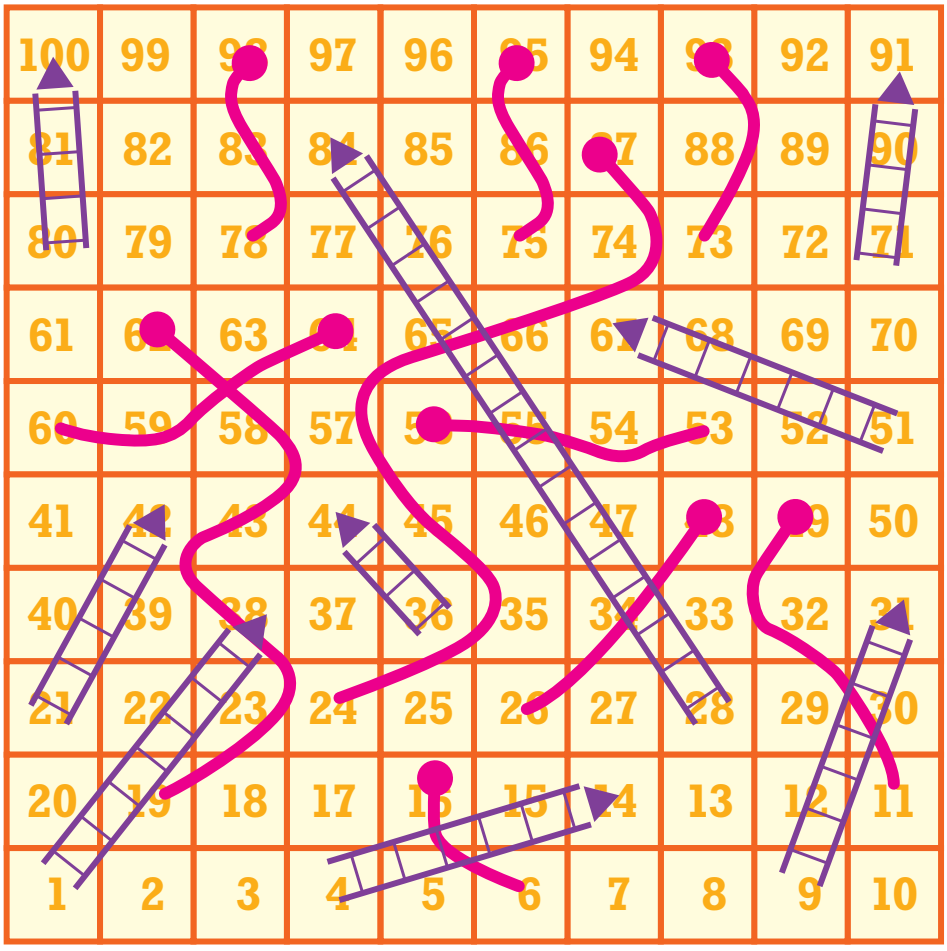



*figure 1*

## Rules

The game of *Snakes and Ladders* is played on a board with a 10x10 grid, numbered sequentially in a zigzag pattern from 1 (the start, in the lower left corner) to 100 (the end, in the top left corner). At various locations on the board are placed snakes (or chutes) and ladders, each of which connects a pair of squares. A representation of the board is shown in *Figure 1.* (Snakes are shown in pink, with a dot representing their heads, and ladders in purple with a point showing the direction of travel.

All players start off the board and take turns rolling a single die and moving the corresponding number of squares. If the completion of a move lands you at the foot of a ladder, you instantly climb to the top of that ladder. Likewise, if a move lands you on the head of a snake, you are forced to slide down the snake to an earlier square. There is no consequence to landing on the top of a ladder or on the tail of a snake; snakes and ladders are one-way passages. Mathematically, this is called a *Directed Graph*. The first player to square 100 wins. (In the version of rules we play, and in this analysis, an exact roll is *not* required to finish).

## Analysis

Because landing on a snake can send you backwards and, if you are incredibly unlucky, you can land on another snake, and another, and so on) there is no theoretical upper limit to the number of moves a game can take. Practically, however, as we will see later, the probability that a game will last more than a couple of hundred moves falls to essentially zero (99.97 percent of games finish in 200 moves or fewer).

To compute the average length of a game, we need to create a table showing the total number of moves to finish a game and what percentage of games finish in that number of moves. Since *Snakes and Ladders* requires no interaction between the players (even when they share the same square), a player's moves

by Nick Berry;
*President, DataGenetics*
***Seattle, WA***

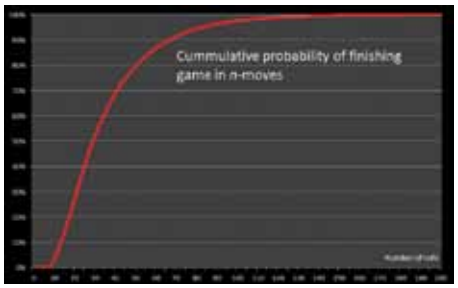



*figure 2*

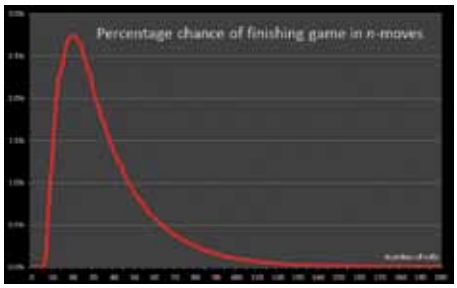



*figure 3*

are independent. We can use the fact to simplify the game and only consider the moves of a single player.

We're going to compare two methods of calculating the moves required to complete a game: *Monte-Carlo Simulation*, and *Markov chain Analysis*.

## Monte-Carlo Simulation

A Monte-Carlo simulation (named after the casino of the same name) is simple and easy to describe: The game is programmatically modeled and, using a random number generator to simulate the dice rolls, played to completion. The results are noted, and then the game is played again, and again, and again. Over many simulations, the more likely results appear more often, and the less likely results less often and so, proportionally, the results of the simulation give an estimate of the relative probabilities of each outcome. The more samples or experiments that are run, the higher the confidence in your results.

*Figure 2* shows the results of simulating a billion games of *Snakes and Ladders*. The x-axis shows the number of rolls, and the y-axis shows the percentage of games that are completed in that number of moves or fewer. Interestingly, no game can finish in less than seven rolls; this is the smallest number of rolls required to win. (There are multiple ways this can be achieved. One such solution: rolls of 4, 6, 6, 2, 6, 6, and 4.) All games that finish in seven moves require the use of the longest ladder. A game finishes in seven moves approximately twice in every thousand games played. More than three quarters of all games are completed in 46 moves or fewer.

*Figure 3* is a plot of the same data, but this time showing the percentage of games that are completed in that exact number of moves, instead of the cumulative probability.

## Average

Statisticians have many different mechanisms to describe "average." The most common are: *Median, Mode* and *Arithmetic Mean*.

The *mode* is defined as the most popular outcome. Looking at *Figure 3*, we can see that the peak occurs at 20 rolls. Over time, the most frequently occurring number of rolls will be 20.

The *median* makes reference to the midpoint. Looking at *Figure 2*, we can see that our distribution crosses the 50 percent line at 29. What this means is that, over time, as many games will take *more* than 29 moves as will take *fewer* than 29 moves.

The *arithmetic mean* is the total of all the rolls made, divided by the number of games. To simulate one billion games, I rolled a total of 36,203,113,317 dice, resulting in an average number of rolls per game of approximately 36.2.

## Limitations

Monte-Carlo simulations are easy to code because they don't require you to understand the intricacies of the underlying math. They can be very efficient tools to test and tweak parameters in games without having to perform complex theoretical computations. However, they do have limitations.

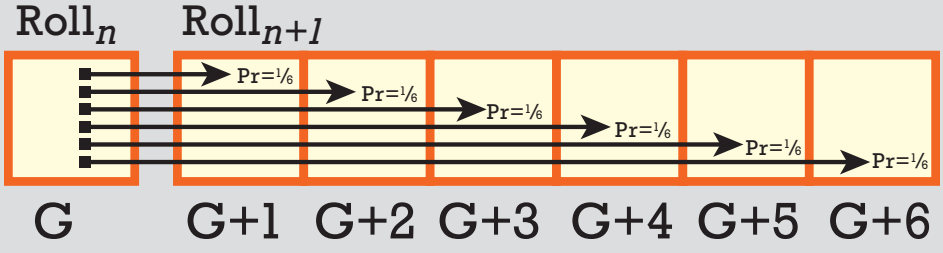
First, you are at the mercy of your random number generator: If your random number generator is biased, your results will also be biased. Second, sufficient iterations have to be made to ensure that you have accurate enough results. Finally, events that occur infrequently need to be exercised amply enough to be properly and proportionally represented in the probabilities. Depending on the complexity of your model, these last two items might make Monte-Carlo simulations too much of a burden.

## Markov chain Analysis

Markov chain analysis is a way of modeling a system that allows the calculation of an exact answer.

At the heart of Markov chain analysis is the concept of a *stochastic* process. This is just a fancy set of words to say that, from a given state, there are a series of possibilities that could happen next, and these possibilities are defined by a probability distribution. (Implied in the definition is that the sum of all the probabilities is 100 percent—something *will* happen next).

*figure 4*




Games like *Snakes and Ladders* are ideal candidates for Markov chain analysis because, at any time, the probabilities of events that will happen in the future are unaffected by what happened in the past. If a player is on grid square 18 of the board, the probability of what will happen on the next roll is independent of how the player got to square 18.

In *Figure 4*, if a player is at grid square G when he rolls, one of six things could happen (with equal probability), and based on these probabilities the player would advance to one of the next squares. These probabilities can be represented as a sparse matrix which records the probability of moving from position

# Mathematical Analysis of *Snakes and Ladders*

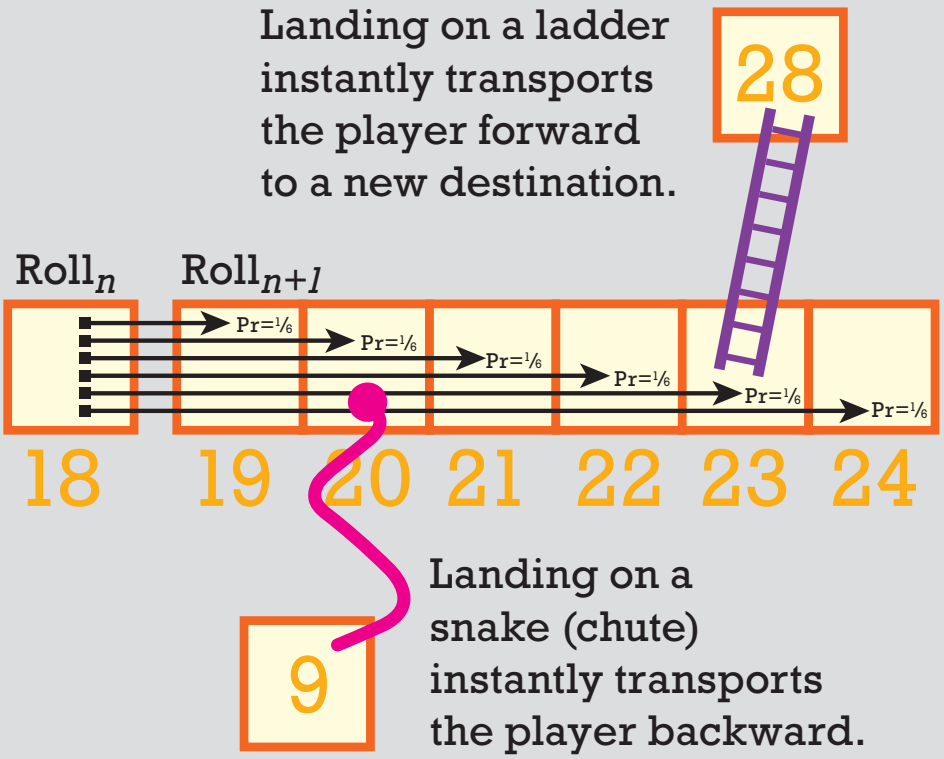



*figure 6*

*i* on the game board to position *j*. This matrix is called a *Transition Matrix*.

An entry in row-i and column-j of the transition matrix gives the probability of moving from location *i* to location *j* on the next move. By stochastic definition, the probabilities of each row add up to *1.0*. A vanilla snippet of this matrix can be seen in *Figure 5*. Here, there is a 1/6 equal chance of reaching each of the next six squares.

Things get a little more interesting when we add *Snakes and Ladders* into the mix. Now there is a chance that the next roll may land a player onto the business-end of one of these special entities and he will get "teleported" to a new location.

Consider the fictitious location depicted in *Figure 6*. There are still six possible outcomes with equal probability of 1/6, but this time, rather than being consecutive, they sometimes record the locations that would be jumped to if the player lands on a snake or a ladder. The section of the transition matrix shown in *Figure 7* itemizes the probabilities. Looking at row 18 we see there is a 1/6 chance of moving to square 19, a 1/6 chance of moving back to square 9 after landing on the snake that start on square 20, a 1/6 chances of moving to squares 21, 22 and 24, and a 1/6 chance of landing on square 28 after taking the ladder from square 23.

There are just a couple of other scenarios we need to correctly address and we'll be able to construct a full stochastic transition matrix for our game.

The first is a condition in which it's possible to land in a location by more than one means from a single roll. An example of this can be seen in *Figure 8*. If a player is on square 50, then a roll of 3 will take her to square 53, but a roll of 6 will also land her on square 53 (because landing on square 56 is the head of a snake which slides her back to 53). Thus, the probability of moving from square 50 to square 53 is 2/6 and not 1/6. *Figure 9* shows this snippet of the transition matrix.

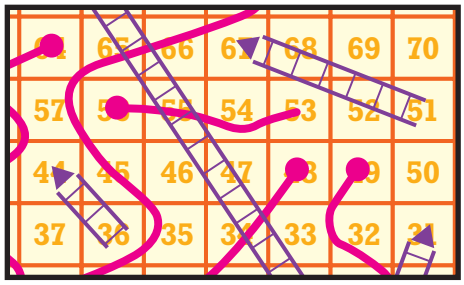



*figure 8*

The second condition that interests us is the boundary scenario in which the player is close to the finish. Since an exact roll is not needed, there are multiple ways to get to square 100. In the matrix snippet shown in *Figure 10* you can see the probability of moving from square 97 to square 100 is 4/6.

## The Transition Matrix

After the stochastic probabilities for each square are entered, the result is a transition matrix that is (101 x 101) and is sparse in nature. It's (101 x 101) rather than (100 x 100) because, prior to their first rolls, players begin the game with their tokens off the board as if there were a square 0.

You may have already have realized that actually we don't need a (101 x 101) matrix; rather, we can instead represent the transition matrix as an (82 x 82) grid. Why? Well the simple explanation is that it is impossible for

| | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 0 | 0 | 0 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 0 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 0 |

*figure 5*

| | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 0 | 1/6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1/6 | 1/6 | 0 | 1/6 | 1/6 | 0 | 0 | 0 | 0 | 0 | 1/6 | 0 | 0 |
| 18 | 0 | 1/6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1/6 | 0 | 1/6 | 1/6 | 0 | 1/6 | 0 | 0 | 0 | 1/6 | 0 | 0 |
| 19 | 0 | 1/6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1/6 | 1/6 | 0 | 1/6 | 1/6 | 0 | 0 | 1/6 | 0 | 0 |

*figure 7*

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# Mathematical Analysis of *Snakes and Ladders*

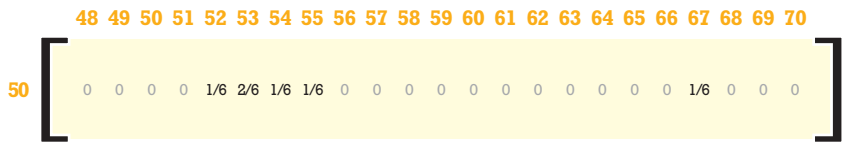



*figure 9*

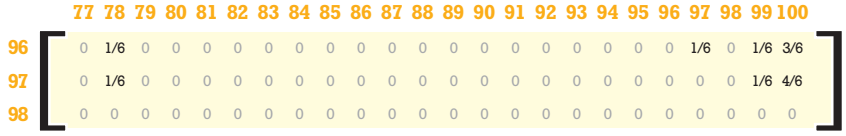



*figure 10*

a player to rest on the head of a snake or the bottom of a ladder. These squares don't need to be defined as separate states since landing on one of them instantly transports the player to the other end. In the (101 x 101) matrix these rows and columns are full of redundant zeros.

Interestingly, compressing these redundant rows makes a non-trivial difference to calculation speed. Matrix multiplication (which as we will see below is used for this calculation) is O(n3), so reducing the size of a square matrix from 101 to 82 doubles the speed!

The transition matrix encapsulates the probability of moving from any square to any other square. Now all we need to do is provide it with an input. A player starts the game off board, and nowhere else, so we create a column vector with 1.0 in the row0, and zeros in all the other positions. (In other words, there is a 100 percent probability that the player will start at position zero).

Next we multiply our column vector by the transition matrix, and the vector produced at the output is the probability distribution at the end of the first roll. Each row value in the output vector is the probability that the player's token will be in that square at the end of that roll. This is represented graphically in *Figure 11*. The darker squares represent the regions of higher probability, while the white squares represent regions of zero probability. There are six shaded squares, each with equal probability, representing the squares that would have been achieved with each distinct roll of the die. You can see that two of the rolls resulted in the use of ladders.

To determine the probabilities of what will happen on the next roll, we use the *output* of the first roll as the *input* for the second roll. We do this b y multiplying by the transition matrix again. The resulting output (*Figure 12*) is the superposition of the probabilities from each of the starting locations. Already the probability "cloud" is spreading out. The dark shading of some of the cells (especially on the lower row) highlight how these spaces are more likely to be occupied after two rolls because of the multiple ways to get there.

*Figure 13, Figure 14, Figure 15* and Figure 16 shows three, four, five and six rolls respectively. *Figure 17* shows (very, very faintly) shading in square 100. A non-zero value is present in this square for the first time showing that the probability cloud has touched the finish, and that it is possible for the game to end in seven rolls. *Figure 18* shows the probability distribution after 20 moves.

## Results

The results of the Markov chain analysis are plotted in *Figure 19*. It's very close to the curve obtained by the Monte-Carlo simulation. The fact that both curves are almost identical, despite being generated in two entirely different ways, reinforces the likelihood that we don't have logic errors in our implementation.

*Figure 20* shows a close-up look at how similar the curves are. The blue line is the exact Markov chain probability, and the red line is the line generated by the random Monte-Carlo simulation. The red line is ever so slightly jagged, highlighting the fact that a random process was used in its creation.

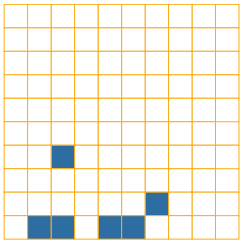
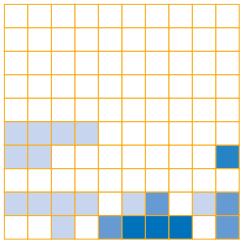


*figure 11*



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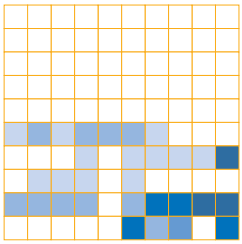

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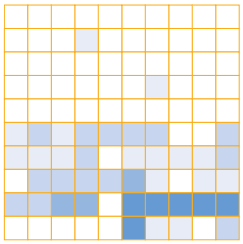

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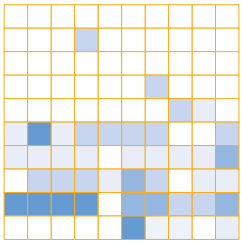
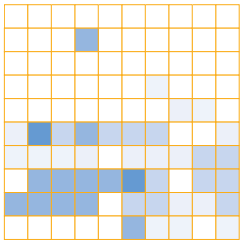


*figure 15*



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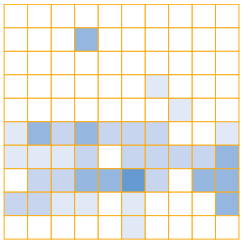

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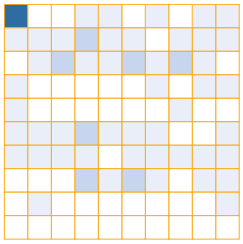

*figure 18*

## Summary

It's possible to use quite simple math to model outcomes of seemingly complex games. If you can represent your game as some form of "memoryless" finite state machine then, through the use of Markov chain analysis, you can exactly calculate the probability distribution of future states.

If a non-exact solution is all that is needed, or you don't understand the subtleties of the probabilities, then a Monte-Carlo simulation with the appropriate number of experiments can produce perfectly acceptable approximations. ❊

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# Postmortem

# *Monsters Ate My Condo*

## Inspiration + Collaboration + Iteration = Innovation

***Monsters Ate My Condo (MAMC)*** is a frantic *Jenga*-like color-matching game, with giant monsters, insane power-ups and over-the-top presentation. It's been described as innovative (nominated for the Innovation Showcase at Casual Connect in Hamburg); TouchGen claimed it "reinvented the match three formula"; and Apple gave it Game of the Week.

So how did such innovation come about? Well, like the majority of so-called innovations (from cyclone vacuum cleaners to iPods) it really started as an attempt to improve something else.

### Initial Inspiration

The original inspiration for *MAMC* came back in 2009. My (then) 5-year-old son Sam and I were playing a lot of *Jenga*. At the same time, PikPok had started developing for iPhone, and the touch/swipe interface on the iPhone seemed like a great way of digitizing that *Jenga* experience. I imagined a 2D game with a *Tetris*-like feel, with blocks continually falling from the sky, the camera zooming out as the tower got taller, and the precision play required to swipe out the blocks to prevent the tower from getting too tall or falling over.

Then Prope released a Wii mini-game collection called *Let's Tap*. One of its mini-games was a *Jenga*-like tower block game called *Silent Blocks* that seemed (based on description) to be this very idea. However, while the theme was similar, I found the controls and game-play so awkward that the game was almost unplayable. Nevertheless, it reinforced the idea that my 2D swipe version could really work.

To be fair, there was one sub-component of *Silent Blocks* that seemed really clever; locked away in a sub-mode called *Alchemy* was a match-three component in which matched blocks would upgrade to metal blocks (bronze to silver to gold, etc.). I'd seen similar matching-upgrade mechanics used in other games, but I had not previously thought of putting it into this *Jenga*-like game I had dreamed up. I realized that this idea could really work in a more casual game as both an incentive to play and as a way to help reduce the height of the tower quickly.

So, I wrote a concept document and pitched it internally. I called the game *Bomoko* (which is Swahili for "collapse." whereas *Jenga* is from the Swahili for "build"). Effectively a 2D-*Jenga* with match-three elements, at this stage I still envisioned a game that required careful swiping and included a tower that could get taller and taller over time.

Not surprisingly, given that at its heart the game was "just" a match-three title, the idea really didn't get much traction at this stage. But in a rare spate of self-belief, I was sure there was something more in it. So months later, when our concept team had a bit of spare time, I pulled rank and got them to spend half a day doing a bit of concept work on *Bomoko*.

Image from GDD showing how the game was planned on paper first.

### Collaboration Leads to More Inspiration

They say a picture is worth a thousand words. In this case it was more like a thousand ideas. The concept team took my game and added an awesome spin. They turned the generically described "blocks" into apartment buildings, added two giant monsters in the background and gave the whole thing a new flavor.

As soon as I saw it, I was flooded with new inspiration.

First, I was reminded of the "Chewits" adverts from when I was a kid. They featured a giant (but kind of cute) dinosaur devouring a British city—the only way to defend against it was to feed it what it really wanted (Chewits). In the new *Bomoko*, it was clear to me that we had to have the monsters *eating* the buildings—so I changed it so that the monsters would be the same color as the apartment blocks. The twist was that they'd be happy if they ate the right color and angry if they ate the wrong color.

by Andy Satterthwaite;
*Executive Producer, Sidhe/PikPok;*
***Wellington, New Zealand***

Original concept image for the game. First appearance of monsters.

But this made the game all about feeding the monsters and balancing the tower, and I really wanted to incorporate the match-three element. It didn't make sense to have Bronze, Silver and Gold monsters appearing arbitrarily, and I didn't feel that points alone would be enough of a reward to make the

TV ad that inspired the monsters eating buildings element.

game interesting. So instead I made it that feeding a monster a metal condo would trigger a super-power unique to that monster (such as straightening the tower, or making the monsters calm regardless of what you fed them).

At this point, I also changed the name of the game, inspired by the monsters and classic tabloid headlines (such as "Freddie Starr Ate My Hamster"). Monsters, power-ups and match-three *Jenga*? Now, I was convinced that the game had a real chance!

THE Sun
£50,000 BINGO
FREDDIE STARR ATE MY HAMSTER
Comic put a live pet in sandwich, says beauty
JEWEL IN MY CROWN

Newspaper headline that inspired the game title.

## Enter Adult Swim

Coincidentally it was about this time that PikPok began talking in earnest with Adult Swim about developing iPhone games with them. We pitched about five different high concept ideas and it was *Monsters Ate My Condo* that really caught their attention. They signed on to publish it.

It was now May, 2011, and at last I had the green-light to start work on the game. I was budgeted two coders and two artists, but the great thing about working for PikPok is that you're not just stuck with a small team—you have an entire company of experienced game developers off of whom you can bounce ideas and a dedicated concept art team who (when you let them) can go completely nuts.

## Artistic Styling

The art style of *MAMC* was 100 percent the output of PikPok's concept art department. Everything from the look of the monsters to the crazy pop-ups to the pixel-art people were products of their fevered imaginations. I specified that we needed four monsters (Red, Blue, Yellow and Green), but everything else was left entirely to them. We did iterate through them a few times with Adult Swim (the initial creatures being a bit too scary for their tastes), but on the whole it was almost complete artistic freedom.

Of course, monsters as cool as these had to have names and stories, so I designed some—but even in this simple task the collaboration and iteration carried on. Some of the original names were inspired by the art: BoatHead was the crab with the boat on his head; Mr. Nakamura was the Japanese businessman character (even though he'd by now mutated in to some crazy German hybrid in lederhosen); BuRP was the dog (BRP being short for Broken Robot Puppy—an early description); and Bob was the unicorn—just because. Eventually, Mr. Nakamura became Mr. Shigoto (because it made more sense in Japanese); and BuRP and Bob became Lord Ferocious and Reginald Starfire because the artist doing the "Meet the Monsters" screens just thought the names sounded better. I agreed.

Sketch of when the green monster was a simple Japanese Business Man (sort of).

## Game-play Iteration

No matter how good the design, the only way to make a great game is to build it and iterate. I also believe that you can tell you are working on something great when those who are making it want to play it. These two stars aligned with *MAMC*. My design was pretty thorough, but it had holes and flaws as any design does. Having the team members question it, inspire new decisions, and come up with crazy ideas—all while remaining permanently enthused—made making the game super fun, and (relatively) easy. We knew we had something good—it was just a question of layering on the insanity, tweaking and changing, again and again and again.

# Monsters Ate My Condo

The first version of the monsters that was deemed too scary/grotesque and was iterated upon.

No matter how good the design, the only way to make a great game is to build it and iterate.

Lineup of the final game monsters.

Fortunately, we had an understanding publisher. Often when developing a game you are constrained by the publisher's vision of the product. But in the case of *Monsters Ate My Condo* Adult Swim really understood the need for collaboration and iteration. They let us try stuff, let us go to crazy places and generally allowed us to finesse the game during development. Had they forced us to stick to the original design or to the original dates (we extended development by four weeks), we would never have been able to make the game as good as it is.

## Evolution

I don't think there was an area of the game that didn't evolve from the original design in some slight way over the course of development, but it was (to use a classic kiwi phrase) "all good." Some examples:

### FRANTIC VS. FINESSE

The original plan had been for something which required precision swiping (like *Jenga*), but we soon realized this was just a barrier to fun and chaos. So we made the swiping more and more casual—you could still balance the tower carefully or collapse it with carelessness, but in general a rapid swipe was all you needed to feed the hungry beasts.

### BOOST

Initially, the green monster, Mr. Shigoto, was designed to have a power called "Combo Boost" that would make any combo go up one extra level (instead of making a bronze, you'd make a silver, for instance). We quickly removed this element because it proved way too powerful, and in its place we gave Mr. Shigoto a double combo (so that he could, for example, make two bronzes instead of one).

### MEGA ZONE

The original "combo boost" power turned into something called "MegaZone" (a special mode that occurred when you combo'd three diamonds). I hadn't planned anything for comboing three diamonds, as I'd thought that would be so hard to do that merely providing a points

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# Monsters Ate My Condo

explosion would be enough. As it turned out, with some practice combo-ing diamonds was pretty easy, so we needed to do something special. Thus Mega Zone was born.

MIAOW

Special Condos are formed when a player combines three or more "bad" condos. This is a tricky thing to do, so I decided to reward those who form Special Condos with a "Combo Boost." The thing was, the special condo just wasn't that special—it was kind of grey and dull. On the very last day before we were due to ship the gold master, I raised this issue with one of our artists. Within an hour he had changed the Special Condo into a block that looks like a demented winking cat—pure genius. But we couldn't have a cat combo without the right sound effect, so at 8 p.m. on the last day of development, we ended up throwing in a miaow sound whenever a cat was formed. It felt perfect, and none of it had been in the original design. It all came from the organic process of development with a team that cared.

## Audio Insanity

Anyone who's played *MAMC* knows that a key part of the experience is the audio—particularly the music. It's another great example of collaboration, iteration and artistic freedom.

The main music came from collaboration between myself and Jeramiah "Module" Ross, our in-house musician. I had a pretty strong idea of what I wanted (Japanese ska/punk) and he riffed it out with style and panache. The vocals in the main theme were sung by first-time singer, Mio Maesaki, who was the roommate of the girlfriend of one of our programmers. She translated some lyrics I had written into Japanese, sang them in a single session, and we were done. The rest of the music was mostly Jeramiah having fun. I requested distinct themes for the various monsters' powers and he just let loose.

The rest of the game vocals (monster voices, power-up sounds and other items) were all done by Mio, people in the studio, Sam (my son, who had helped inspire the whole thing from the start) and Tania Dreaver-Parker, an opera-singing friend of mine, who made all our game overs so memorable. The idea throughout was to keep it crazy and keep it fun.

## Happy Place

These are just some examples and elements of the inspiration, collaboration and iteration that made *MAMC* possible. Without these the game wouldn't have been good—let alone innovative.

At the time of making *Monsters Ate My Condo*, I was working on multiple games (one of the pleasures and banes of being an Executive Producer). Throughout it all *MAMC* was always my happy place, always fun to work on, always inspiring and always full of that "one more go" potential.

After 18 years in the game industry, it's the game I'm most proud of. But while I'm listed as the designer and producer of the title, it is really the product of many fevered minds, as every single person who worked on it added something that made it better.

## What's Next?

The Lite version of *MAMC* is now live on the App Store. We're about to release the soundtrack on BandCamp, and a bunch of t-shirts are being designed for our PikPok store. And of course we continue to work on new games using the same collaborative and iterative processes. But what I'm really hoping for is that we get a chance to do a sequel, because *MAMC* has only just scratched the surface of where this craziness can take us: more monsters, more powers, more environments, IAP, nuke blocks, acid blocks, and dog blocks (woof)—to name but a few. ❊

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| | |
|---|---|
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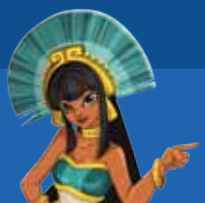
| Games: | 60+ casual games (Cleopatra's Pyramid, Fluffy Birds, Bubble Popp, Jungle Jewels) developed inhouse |
| Revenues: | Transaction, subscriptions, sponsoring, virtual goods |
| Marketing: | Over 1.000+ international partners, portals and sites worldwide |
| Crossplatform: | Own online games web-portal www.gameduell.com, Facebook, iPhone, iPad, Android. |
| Customers: | More than 70 million registered members |

***Bubble Speed***

***Jungle Jewels***

***Fluffy***

***Maya Pyramid***



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# Sanuk Games

**COMPANY:** Sanuk Games
**YEAR FOUNDED:** 2003
**URL:** www.sanukgames.com
**OFFICES:** Bangkok, Thailand
**EMPLOYEES:** 20+

**Sanuk Games is** not your typical success story. It has been through many highs and lows since its founding in 2003. It's a story worth telling. The story which follows is a candid and honest history from Yan Marchal, the founder of Sanuk Games.

## Beginnings

I had joined Ubisoft in Paris as a junior programmer in 1996. In what was then a mere SME, I was lucky enough to be assigned on a first mission where I could deliver quick and impressive results: I adapted *POD*, one of the company's PC games, to the first generation of 3D graphic cards, which provided for a good showcase at E3. This laid the path for a skyrocketing career. As the company expanded internationally, I was assigned a couple of months later to remotely direct programming teams in foreign subsidiaries on multiple projects.

The honeymoon period came to an abrupt end, however, when I joined the global CTO's team. Unprepared for the more political nature of this new role, I found myself at odds with the company's top management. From that point on, my career became sidelined for several years, with all doors to advancement firmly locked.

As time went by, I began wondering what to do. I had worked hard at school to be where I was, in a company many would dream to join, with a salary many would dream to have. Was it worth dropping all of that just to escape boredom and get a life? And where should I go anyway? Wouldn't a similar job in another company (assuming I could even get one) result in the same situation? It took years, but finally the lack of fulfillment and a growing sense of aging made me realize that I had to risk whatever I had and try to start a business.

I explored a couple of business ideas involving starting a game studio. There was no bankable indie scene back then, and mobile gaming was, at best, a hypothetical future prospect. From where I stood, game development looked like it *had* to be something big and ambitious. I submitted proposals to the French innovation agency (the ANVAR, renamed OSEO since then) to get subsidies. My proposals were all rejected. I realized I was not carrying enough added value and credibility to enroll investors, clients, institutions (or whomever) into an ambitious business project bearing a French cost of operations.

So then I decided to target a lower position in the value chain: relocate myself to a lower-cost country and try to sell outsourcing services related to game development. But where to go? I didn't have any contact in any lower-cost country that could seriously help me get started. I hadn't even visited that many foreign countries, for that matter.

Could Thailand, which I had enjoyed for holidays, be a suitable base for such a business? The country was not really known worldwide as a hotbed for software development—although it *was* known for a different sort of hot bed, typically occupied by expatriate slackers who were there primarily to enjoy the nightlife. I would probably be categorized as one of them, and this would likely affect my credibility.

On the other hand, when you're making a bold move to change your life, you don't let some stereotype keep you from settling where you want to. As soon as my application to the Thai board of investment got accepted (a compulsory step for foreigners to own a company), I was on my way.

## Bootstrapping

Administratively, starting up was easy. I was required to commit an upfront investment of two million Baht ($50,000 in 2003) and to locate my office in a remote suburb of Bangkok—in the middle of nowhere. Fortunately, the area has since then been thoroughly urbanized, but initially the location created aeal difficulties in attracting talent and hiring staff. Because there were massive numbers of skilled (although expensive) junior developers available in France, I was not prepared for how rare such talent would prove to be in Thailand.

More importantly, I had underestimated how much more difficult it would be to attract candidates when I was a nobody in an empty office than it had been when I was hiring for Ubisoft. Fortunately, my

Trying hard to make a hoverboard game, and even harder to sell it. But no luck!

visit to the University of Chiang Mai in the north of the country had convinced a trio of young graduates to come and work with me. One of them, Sanchai Khammaha, is still working with Sanuk Games as an executive producer today.

The second difficulty was to find business. I had been fortunate enough to negotiate a departure from Ubisoft in good terms. At that time, they were downsizing their development studios in France, but the French labor protection laws were in their way, compelling them to pay people hefty amounts in exchange for their resignations. I told them to keep their check and instead commit to buying an amount of service from my company within a given timeframe in order to help me get started. They accepted. Besides this, I had activated my entire extended network of friends and acquaintances since junior high school.

These initial efforts got us occupied with a lot of small missions of diverse kinds: maintenance and upgrade of editing tools, remastering of retail PC games, promotional Flash games, little-known mobile games, etc. We eventually signed two projects with Vivendi Games (*After Dark: Flying Toaster* and the never-released *Leisure Suit Larry: Condom Pile*) before they exited the mobile game market.

The team grew step by step, but we were caught in a vicious cycle. We had no specialization, and therefore no ability to charge decent prices. We were bound to accept whichever small, cheap projects we could find. Because every new project was different, we had to climb steep learning curves, and the low profitability made it difficult to increase salaries or to give the staff any indication of what sort of project they might be working on next. This

**I had worked hard at school to be where I was, in a company many would dream to join, with a salary many would dream to have. Was it worth dropping all of that just to escape boredom and get a life?**

# Sanuk Games

A couple of critically acclaimed PlayStation ports we made: *Pix'n Love Rush, Drums Challenge, Twin Blades* (respectively from Pastagames, Musigames, Press Start Studio).

resulted in gigantic staff turnover (over 50 percent in 2006!), which in turn made it impossible to acquire specialization.

It wasn't worth hanging on to such a struggling business. I had to choose a path and stick to it, even if it meant taking the risk of losing everything.

More importantly for us, our status as a confirmed Nintendo developer landed us an avalanche of decently paid projects when publishers started paying more attention to the DS and Wii. The team grew to around 40 persons, and within three years we released more than 30 retail games on these two consoles for publishers such as Atari, Avanquest, Bigben Interactive, Eidos, Mindscape and others. We produced edutainment games (*Junior Brain Trainer*), game show franchises (*Countdown, Ready Steady Cook*), pet care games (*Dolphin Trainer*), and a whole series of crossword games with various brands. This brought us two years of high profitability.

*Animal Blitz,* our first foray into social gaming with Sanook Online.

## The All-Nintendo Era

In 2005, I applied to Nintendo and Sony for developer's licenses for the DS and PSP consoles. It was not clear at the time whether either of these two handhelds was going to be successful, but since the applications were free of charge, I just shot them over. Sony rejected us on the grounds that they did not support Southeast Asia (a policy they have changed since then), but Nintendo approved us.

Then in 2006, realizing that the DS was gaining momentum and that not many studios were licensed for it, I decided to fund a game prototype on it. As it was just a showcase of know-how, I let the team members do whatever they felt like doing. That's how we ended up with *Barnyard Blast: Swine of the Night*, one of the weirdest games ever released on the platform: a cowboy pig shooting zombies in a Castlevania-like setup hybridized with low-brow college humor.

The game got signed by Bigben Interactive in Europe and DSI Games in America. European sales were disappointing, and the American publisher never bothered to share the figures with us, but the game was picked up as an oddity by a number of bloggers, and still had some kind of cult following years after its release.

**I had underestimated how much more difficult it would be to attract candidates as a nobody in an empty office than it had been when I was hiring for Ubisoft.**

Also, once we were positioned as a successful Nintendo specialist, we found it much easier to attract and retain talent. It sounded like all of our business problems were fixed! I knew it wouldn't last forever, but I hadn't anticipated how abruptly it would stop. A dreadful 2008 Christmas season saw many games stuck in warehouses as retailers rejected them, and those that had found their way to the shelves had suffered from high returns. As early as January 2009, most of our ongoing projects and incoming orders were cancelled. I was left with a big, expensive, unoccupied team.

Products of an era when quantity prevailed! Although there were a couple of good games in the bunch.

## Soul-searching and Costly Mistakes

I have made a number of mistakes since the business started. Influenced by my experience in the production side of a big corporation, in the early days I focused too much attention on setting up irrelevant HR processes, cost-control mechanisms, and so on, when I should have been solely focused on building know-how and marketing it.

Then, when the business was working well, I signed a couple of deals with untrustworthy publishers. Most notably, Mercury Games and The Games Company left us with unpaid bills of considerable amounts of money (both of them are now defunct).

At the height of the all-Nintendo era, as I was too busy with high-level management, I decided to hire two experienced Westerners at high salaries (for our scale) as an executive producer and a senior game designer. Both of them were skilled and had their duties at heart, and they certainly brought expertise and perspective to the company. But the timing for hiring them was wrong: The bubble collapsed shortly after they came. The company had to shrink, making their presence less relevant—and their salaries too high to bear. Eventually they left.

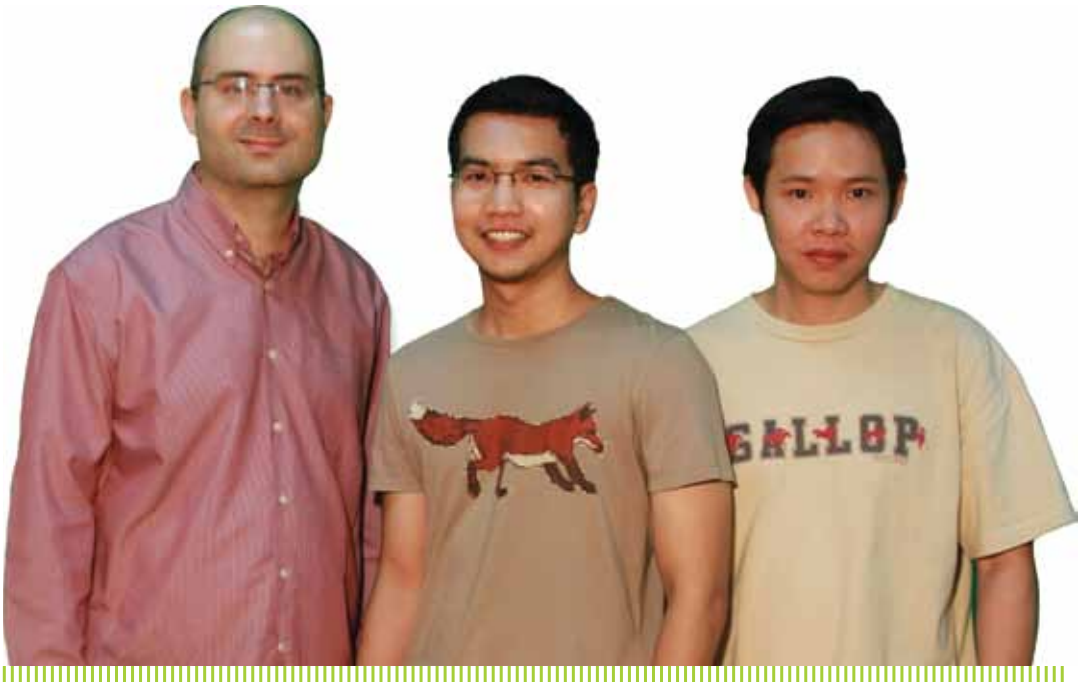
I made my biggest mistake when trying to refocus the company after the collapse of the bubble. I did not see soon enough where the game industry was heading (smartphone games, downloadable PC games, social games). I remember laughing with friends at how clueless investors were to throw millions in companies such as Zynga or Playfish. When EA acquired Playfish for $300 million, we had to laugh at ourselves.

During that time, I remained centered on the console space, where only higher-budget games were still selling well. I applied for developer licenses with Sony and Microsoft consoles (this time, I could get them), and we began to develop prototypes of more ambitious 3D games and shop them around. We prototyped a hoverboard game (like in *Back to the Future*) and a dancing game. I failed to realize that most of the ambitious console games still being produced were made in publishers' internal studios rather than contracted to third-party studios. Besides, we did not have all it takes to handle full production of cutting-edge 3D games: Our prototypes were underwhelming.

On top of that, because I didn't have good contact points to canvass big publishers, I partnered for business development with an entrepreneur who had worked with some of them and had a lot of contacts. While I can't say that he didn't try to help, the outcome was zero, in part because not everybody thought highly of him and—as other events would prove—he was not at all trustworthy.

*Barnyard Blast: Swine of the Night*—one of the weirdest games ever made.

# Sanuk Games



Yan Marchal, *Founder;*
Sanchai Khammaha, *Executive Producer;*
Supachai Akaraputtiporn, *Producer*

## Digital Publishing

Once I had lowered our headcount to 16 persons (through a year and a half of dismissals and resignations), I knew my next attempt would be the last chance to save the company. For one thing, we had very little money left.

Finally aware that contracted work had become scarce and underpaid, but a bankable indie scene had emerged in the mobile and casual spaces, I focused most of our efforts on developing and publishing small games on iPhone and console download portals (PlayStation Store, DSiWare, WiiWare). We started with simple, obvious casual games: *Spot The Differences* and a bunch of crossword games (we had previously gained experience in the crossword genre on Nintendo DS). We tested the market on different platforms.

**Influenced by my experience in the production side of a big corporation, in the early days I focused too much attention on setting up irrelevant HR processes, cost-control mechanisms, and so on, when I should have been solely focused on building know-how and marketing it.**

We were mildly successful on iPhone, despite a couple of spikes. *Spot The Differences* skyrocketed in Italy, and reached the first position of the Top 100, but went unnoticed everywhere else. The French crossword game, *Mots Croisés*, was selected by Apple for their nationwide ad campaign, and therefore sold well, but other crossword games went unnoticed. I understood that the casino-like nature of the AppStore didn't work very well for us: We were bound to bet against the odds. We are still active today as an iOS and Android developer, but no longer as a publisher. We only do contracted projects.

On DSiWare, we were too late. The service was already past its peak point. Although all of our games were in the Top 20 on their week of release, the sales figures did not cover costs. *Spot The Differences* on WiiWare, though, did surprisingly well despite being released even later.

We had our best luck with the PlayStation Store. Sony was launching the "PlayStation Minis" category (small games that can run on both PSP and PS3), and we were among the few publishers who boarded in right from the start. *Spot The Differences* had impressive sales figures for a game not aimed at the 15-to-30 year-old male gamers who form the core audience of the platform.

*Arcadia Hospital,* our take on the hidden object adventure genre, to be released in 2012. Stay tuned!

There was a business there—but it wasn't quite big enough to fund full game development from scratch. Fortunately enough, Bulkypix, a rising French publisher on iPhone, offered to license us some of their games for ports. We did that with their iPhone hit *Hysteria Project*, and it was an instant success on PlayStation.

From then on, I hunted for more such deals with indie developers. We released a number of PlayStation ports with diverse, but overall satisfactory, success. Among them were *Actual Crimes: Jack The Ripper* from Virtual Playground, *Pix'n Love Rush* from Pastagames, and *Arkedo Series* from Arkedo. While many competing PlayStation Minis ports were slammed for being of poor quality, ours were often praised by reviewers—we always made the necessary effort to get them done right.

This business sustained us for some time, but 2011 saw a drop in sales. Once again, we have to find something new.

### Present and Perspectives

Although I was late in realizing the potential of social games, we started studying the Facebook API in late 2009 and pulled out a small showcase project (no longer online). I decided we would not try to publish and operate social games by ourselves, as it is even more of a gamble than the App Store—with the added complexity of monetizing games besides promoting them. Instead, we would use the showcase project to try and look for contracts.

This didn't work too well at first, but we finally got hired by Oh Thongsrinoon from Sanook Online (no relation), the Thai subsidiary of Tencent, to develop an *Animal Blitz* social game for their domestic portal. They are happy with the reception. We are now in discussion with them and others about more social game projects.

Aside from this, we are entering the hidden object adventure genre with *Arcadia Hospital*—a game with deeper content than anything we've been doing in recent times. It may be late to embark on this ship, but our different approach to the genre and our ability to deploy the game on many platforms make us reasonably confident in the bankability of the project. Time will tell, of course.

Last but not least, we have a couple of exciting mobile and console projects in the pipeline with different partners, but I am not allowed to disclose details at time of writing.

We're in a business where we must reinvent ourselves every one or two years, and so far we've been doing it with enough success to survive. I hope to gain enough experience from past mistakes to make fewer of them in the future—and to build a more solid position for the team and for myself in the process. Either way, don't they say that the journey is the reward? From that standpoint at least, Sanuk Games has been a fully rewarding experience. ❇

**We're in a business where we must reinvent ourselves every one or two years, and so far we've been doing it with enough success to survive.**

Exclusive Interview

# What Games Can Learn from an Innovation Leader

## Interview with a DreamWorks Animation Innovator

With a culture that's over-the-top with creative outlets and rewards, DreamWorks Animation has managed to provide an environment in which every single employee becomes an "artist." And, the results are phenomenal.

**Jonathan Leaders** is a Technical Director at a company that embraces innovation so completely you rarely find a description of the company without the word "innovation" in the same sentence. DreamWorks Animation wears the "skin" of innovation—every cell infused with the nutrients that support healthy creativity. If the company itself is the skin, then the web of interconnected talent of Leaders and his colleagues surely makes up the muscle. What Leaders does everyday plows the path for creatives at the company to make mind-blowing magic. Attaching logic to design and resources to human need, he builds the right tools to enhance the ability of artists to manage their creation and bring to life some of the most memorable scenes in cinema.

Leaders became an innovator at the early age of nine when he decided to build a game that allowed him to play against his sister. He continued making games and began selling them in high school at age fourteen. Leaders later became a student at Guildhall at Southern Methodist University, which has a strong graduate-level course in video game software development. He worked three years and had three shipped titles on four platforms in the games industry before transitioning his talents into film. "I simply applied for a job opening using the World Wide Web," says Leaders. "From a technical and artistic perspective, animated 3D films require a lot of the same skill-sets I was using in games. The difference is largely that of workflow, pipeline, and scale."

### An Environment for Innovation

At DreamWorks Animation, Leaders found an atmosphere for innovation that rarely exists in major corporations. With a culture that's over-the-top with creative outlets and rewards, DreamWorks Animation has managed to provide an environment in which every single employee becomes an "artist." The results are phenomenal. "Every one of our films showcases world-class technology and artistry," says Leaders. "Stereoscopic 3D has become a signature for our films," he continues, "and we're one of the few companies that constantly gets glowing reviews for our stereoscopy. I understand that over 70 percent of *Kung Fu Panda 2* reviews highlighted the stereoscopic 3D as a great part of the experience. This contrasts with some other companies which throw in stereoscopy as an afterthought or gimmick, often to negative remarks by the audience of reviewers."

When innovation is not something you do, but something you *are*, work and play flow seamlessly together, making room for enhanced creativity. Quality makes space for greatness to occur—and DreamWorks Animation values quality in everything. Says Leaders: "Move to a new desk? Get $200 to decorate it. Flowers stop blooming on campus? Swap them out for new ones. Koi fish, art, and fountains are everywhere on campus. From robotic desks (so we can stand) to free espresso, lunch, breakfast, and nice parties celebrating milestones—the support is amazing. Even companies that do really well financially don't necessarily value the same culture of quality. As a result, workers don't always feel they should do their very best, because they cannot jus-

by Mary Kurek;
*professional networker, Visibility Consulting;*
***Atlantic Beach, NC***

*Jonathan Leaders*

PHOTO: *Lucas Janin,* lucas3d.com

**Left and below bottom right:** DreamWorks Animation Campus, Glendale, CA.

Screenshot from Kung Fu Panda 2, 3D motion picture, loved by kids from 5 to 95.

tify the extra work to polish what they are doing. Instead, they move on to the next task, and nothing reaches its fullest potential."

"By way of an example," Leaders continues, "I once finished a simple tool in a way I felt was very efficient, useful, and effective. But, it was sent back to me as 'unfinished,' because it wasn't as nicely colored as it could have been. Thus began my understanding of what it is to value quality. The visual renovation of that tool became a standard for more than ten other tools."

## Embracing Innovation

Leaders' training and experience in the games industry allow him a particularly good foundation from which to speak on how the industry can embrace innovation, especially within the technology of games. Says Leaders: "The execution of innovation is largely a function of proper process. In order to innovate on a small budget, one must make small games. You must scale your operation in relation to the available resources, accounting for polish, 'knowns,' 'known unknowns,' and 'unknown unknowns'—that is to say, things you are accounting for not accounting for. If you aim for an appropriately small-scale operation, you can make it gold. In order to have the Midas touch, you cannot have your hands tied behind your back. Insist on using the precisely proper process."

An example of a developer that, in Leaders' opinion, has the innovative touch, is thatgamecompany (www.thatgamecompany.com), developer of the award-winning PlayStation Network title, *flOw* (2006). *Flower* for PS3 is what Leaders upholds as an impressively beautiful and imaginative game. The game is a visual confluence of chaos flowing into serenity,

PHOTO: *Lucas Janin,* lucas3d.com

# Jonathan Leaders

There is a direct correlation between quality and innovation.

mimicking real life. Your experience is driven by your ability to "fly" and collect petals determining air currents and wind with your controller. The team at thatgamecompany has mastered innovation; providing us an almost out-of-body-like adventure, while still relating it to our human experience. They pulled the future to them. Co-founder of thatgamecompany, Jenova Chen, abides by a simple philosophy: "Doing things that you think people need but are missing always leads to innovation. Doing things that are popular and making money doesn't."

Innovation isn't a stagnant concept. As practitioners or seekers we are required to be aware of trends, to notice the glass ceilings that are breaking daily, and to be fearless in viewing the future. For instance, when asked about the convergence of film and games, Leaders can imagine interactive films and games with epic stories. "The technology for the crossover between games and film," says Leaders, "would be the simplest part of the equation. However," he continues, "the design of the experience is the greatest complexity. Technology is, and always has been, fundamentally driven by business, and how strong the incentive for the crossover is questionable. The naive eye sees a new year of excelled game graphics and says, 'Wow! Games are becoming like films!' The reality is that games are starting to look more like films, but there has been no increase in convergence between the experiences of the two. There is a trivial element of increased believability and greater available emotional artistry," he adds with a laugh, "but we all still cried when the pixelated low-poly Aerith died in *Final Fantasy VII*."

Innovation finds a home where there's fertile ground—sometimes slowly and clumsily. And, sometimes, it resists, because there's something more important going on. "Insofar as mere plain text has carried all of humanity's epics, lore, and tales of old," says Leaders, "visual elements remain but tools in a master storyteller's hand. It is hard to eat popcorn and hold a controller at the same time for more than one reason."

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*It's hard not to develop a pretty serious viewpoint on quality if you work at DreamWorks Animation, but Leaders has long harbored his own thoughts on the subject—thoughts that could provide insight for any industry dependent on technology and artistry. "There is a direct correlation between quality and innovation," he says. We asked Leaders to share his thoughts on this and other issues related to innovation.*

## ON THE CULTURE OF INNOVATION

As an example of innovation, I will use the American inventor, Thomas Alva Edison (who held over 1,200 patents). Edison surrounded himself with quality. He started building things of quality even as a child. At a young age (around nine or so), Edison and his friends built a cave and tunnels replete with tables, games, chairs, and even a half-mile of makeshift telegraph wire. Then when he was around 20, he faced for the first time press wires that were sent too fast for him to receive. So instead of sacrificing message quality (as other telegraphers tended to do), he spent time building a device that slowed down the transmission speed so he could get every bit of the message correctly.

Edison also surrounded himself with quality people. His chief engineer was Henry Ford. His European agent was the one that brought Nikola Tesla to the States. These people were very influential, and, I would argue, in large part because they were surrounded by a culture of doing quality; they consequently felt they could reach their best potential. Edison was so well known for understanding quality that he was a respected voice on architecture, agriculture, mining, and international issues. He would take a trip to Europe, analyze many European issues with their pros and cons, and then report on their quality. It is clear that his mind was always considering the difference between what is and what could be.

This mindset of quality was echoed in a 1985 interview with Steve Jobs regarding the Macintosh. 'When you're a carpenter making a beautiful chest of drawers,' he said, 'you're not going to use a piece of plywood on the back, even though it faces the wall and nobody will ever see it. You'll know it's there, so you're going to use a beautiful piece of wood on the back. For you to sleep well at night, the aesthetic, the quality, has to be carried all the way through.'

I imagine that, in the psychology of innovation, 'desire for more, and the desire for more quality' is the impetus behind the tension that beckons innovation. But it's the culture that realizes it. A good friend of mine, politician and businessman Merlin Froyd, says an attribute of the culture of innovation is 'a free environment that has a balanced schedule to work calmly and take moments to reflect and experiment.

## ON TRAITS OF INNOVATION

If you continue to look at great innovators in history, you will see a trend in their work, their behaviors, and their persona. Tony Buzan identifies top trends as:

- ***Vision***
  A life goal, a concept for your future that overrides everything else in your life
- ***Commitment***
  Persistence to reach your goal no matter how many times you fail
- ***Knowledge of Your Subject***
  You must have a detailed knowledge
- ***Mastermind Groups***
  Develop your own group of colleagues and mentors
- ***Positive Attitude***
  How to look positively at life, making the best of existing situations
- ***Planning***
  Meticulous planning is essential to success
- ***Learning from Your Mistakes***
  How to 'bounce back' from your reverses and learn how to do things differently next time
- ***Creativity***
  How to break the mould of existing experiences to explore new boundaries
- ***Mental Literacy***
  Develop your knowledge and understanding of the way the brain functions and its behaviour patterns
- ***Energy***
  Why 'action' is the key to everything.

This is explored in more detail in Tony Buzan's book, *Genius Formula*.

**continued on page 45**

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## ON RISK AND INNOVATION

Innovation is—at its heart—risk. Risk is something that causes us hesitation, and fear, (and rightfully so, we instinctively feel), but sometimes that fear and hesitation become paralyzing. In his book *Quitter*, Jon Acuff is right when he says we're the 'I'm but' generation. 'I'm a ___, but I want to be a _____.' This refrain is common because most of us have already put our dreams on hold. The main reason people put their dreams on the shelf is because they are afraid. But the fear is incorrectly amplified because we are afraid to fail. We become freer to pursue our dreams when we embrace failure. Oracle director Mark Hurd quoted an IBM exec, saying 'If you want to increase your success rate, double your failure rate.' There is an incorrect assumption that failure is a bad thing, when in reality it allows us to grow, learn, and make progress towards our dreams. The greatest successes of mankind were made possible by a string of failures.

At DreamWorks Animation, technology project lead, PJ McNerney, shares some wisdom about innovating on a personal level: 'Innovation comes from taking risks and going big, by having the courage to start and the stamina to push through. It is fueled by early successes, but missing the mark once, twice, or even 1,000 times, doesn't mean you've failed. Part of the process is embracing failure while refusing to accept it as an end. If you want to innovate, you need guts, lofty goals, and thick skin. The road is hard, but the rewards are worth it.

## ON INCENTIVIZING INNOVATION

There was a scientific study financed by the Federal Reserve Bank and performed at MIT, which included economists from the University of Chicago, and Carnegie Mellon, that reviewed work incentives.[1] The results showed that increasing performance-based monetary incentives worked well for straightforward physical tasks. However, when it came to tasks with even rudimentary cognitive skill, increasing rewards actually led to decreased performance. After people are paid enough to be satisfied, then the greatest incentives for cognitive behaviors are: autonomy, mastery, and purpose. Instead of saying 'I want you to do something interesting, let me give you the innovation bonus,' we should be saying, 'I know you want to do something interesting, let me get out of your way.' Google and Atlassian have scheduled times dedicated to employees building whatever they want, resulting in greatly increased tangible innovation.

[1] *"Drive: The Surprising Truth About What Motivates Us." Daniel H. Pink talk on motivation, The RSA, London, 27th Jan 2010*

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Leaders' comments on innovation bring to mind how important leadership is to building a setting in which innovation can even exist. No doubt the leadership at DreamWorks Animation knows what all good innovators know—that there are no small decisions; rather every decision ties to overall quality. When you "get" that, then you pay attention to things that might ordinarily escape others. For an individual, it's on the way to leadership that one finds innovation. For a corporation, perhaps, it's the passion to innovate that forces leadership. Either way, the two are inseparable and inevitable. You see, innovation isn't ever a surprise, even if the intention is hidden within a young boy's desire to build a game that he can play with his sister. ❊

Meticulous planning is essential to success.

# What's Not to Like?

## Service Games Just Keep Getting Better

**The introduction of games as a service pried open a trove of vital user data about how players experience a game.**

**There was a time that now seems eons ago** when games were one-off affairs for which the published package reigned supreme. Consumers bought a title, such as *Super Mario Bros.*, gleefully cracked it open and played it until they couldn't bear another jaunt through the super mushroom kingdom. More than just a case of fungus overload, the game, played repeatedly until there were no more challenges to master, soon would become a tired title eclipsed by the latest gaming sensation.

The issue of games retaining their staying power has more recently been turned on its head with such titles as *FarmVille* and the assorted Facebook gaming fixtures by the likes of Zynga. While their arrival was often hailed as a watershed moment for bringing more women into the world of gaming, social games also blazed a trail for something equally significant: the emergence of games as a service.

### Learning from the Data

The idea of games as service is built on the notion that players want more than the same ol' same ol'. Previously, when games were simply a product, companies would launch a title, ship the game to stores, and hope for the best. There was little, if any, feedback from users who made a purchase.

With a service game, the launch is just the beginning.

The introduction of games as a service pried open a trove of vital user data about how players experience a game. Companies like Zynga, Playfish, Wooga and King.com began actively using that information to keep users engaged. Suddenly, developers had the opportunity to fix any sticking points in the game. With a tweak here or a tuck there, they could not only significantly improve the gaming experience, but they could also alter the game so that tedium or repetition was no longer a factor.

The way Zynga handled *FarmVille* had a huge impact on games as a service. The old model had developers move onto the next game after the launch, but Zynga instead maintained a staff to continue working on *FarmVille*. Suddenly, a user would notice small alterations, such as a cow changing color, so that the game was anything but monotonous.

As well as those making slight revisions to the game was a corps of data experts, analysts and economists who sifted through the numbers so that any improvement or change was based on the science of statistics rather than on some gut feeling. Companies could interact with users like never before by adapting new platforms and new ways to monetize.

### Keeping Things Fun

Though this data has changed the way users interact with games, there is no formula or data to test your way to a fun experience. Now the challenge of game designers is to craft an enjoyable, addictive game that also employs all the new innovations that come with gaming as a service. Finding that perfect balance—that game-developing sweet spot—is the aim of nearly every gaming company.

Determining how fun a game is will always remain the X factor. Not even a Nobel Prize-winning scientist can fully explain why a beloved title such as *Tetris* or *Bejeweled* is an evergreen. But while that's one of the enduring mysteries gaming companies will always try to solve, the elements that come with gaming as a service are something more tangible. It's far easier to wrap your head around data and user response, which can be mined, managed and tailored to increase the chances that a game will become and, more importantly, remain a hit.

The depth of games as service has become a key factor in their success. When King.com launches a game on Facebook, we typically have 50 to 70 levels, with the understanding that, if the game is a hit, within six months we will add another 150 levels. It's no great secret that the prospect of constantly experiencing these new levels, developed after the

game has gone live, keeps gamers hooked. But this is far more than just augmentation.

For *Bubble Witch Saga*, we launched with 64 levels and have added 10 additional levels every two weeks. When the level designer begins work on those new levels, the team at King.com studies the statistics on the earlier levels to determine which ones have engaged users the most. By adding up the amount of time players have spent on a specific level; seeing what levels have been visited repeatedly; and even drawing insights from comments on fan pages, we can add levels that mirror the experience of those that have kept players satisfied. The result is a game that, in the minds of users, keeps on giving.

### Moving to Other Platforms

As a result of the way developers can adapt and tailor games based on user behavior, brands emerge—paving the path for a title to become a hit on other platforms. That said, service games on mobile have yet to establish themselves like they have on Facebook.

Mobile carriers continue to charge for data, so some players are hesitant to remain connected—a fact which poses yet another challenge for gaming companies. And these games have to work in a space where, unlike Facebook, there is no direct connection to the end users. Some of the bigger games, such as the Zynga titles, require a constant connection, which is perhaps why *CityVille* has not taken off on mobile.

While it's in vogue to chatter about some Orwellian threat associated with having personal information available via Facebook, users embrace the idea that if there is a bug in a Facebook game, it can be fixed quickly. Players can actively contribute to the game by translating it into local languages or by reporting an issue and seeing it quickly resolved. If a similar problem arose on a Nintendo console game, that issue could linger and perhaps even discourage a player from continuing.

### Broadening the Audience

The casual nature of Facebook games based on the freemium model offers a very different type of engagement from a *Call of Duty*, which might cost $60 and engage a user for 600 hours. Casual games have a broader appeal and don't require the time or the learning commitment of the most popular console games. That casual engagement level—which allows a user to kill a few minutes at a time rather than committing innumerable hours per session—is also part of the appeal.

The number of female gamers has continued to increase with the rise of service games. There are exceptions, such as *Kabam*. which generally target hardcore male gamers. However, the majority of the players on casual games are female, which has continued to alter and help diversify the profile of the typical gamer.

### Ongoing Improvement

by Lars Jörnow;
*VP Mobile, King.com*
***Stockholm, Sweden***

Users can only benefit from games as a service, especially as the quality of titles and our ability to respond to users continues to improve. Compare the social games now on Facebook to those from a year ago—all the top titles' quality, depth, design and ability to engage have vastly improved. Zynga's more recently released *CastleVille* is substantially more polished than *FarmVille* ever was.

A year ago, we launched *Miner Speed*, which is a high score-focused Facebook game with a one-minute core game loop and six virtual goods called "boosters." The game was not the huge success we had anticipated, and the team quickly moved on to other games. But the millions of data points that we collected from *Miner Speed* game-play were immensely helpful when we designed the next generation of social games at King.com: the *Saga* titles, which feature more depth and unlockable features. When we realized the *Saga* games were going be smash hits, we could easily justify having development teams continue enhancing these games with the addition of new content, virtual goods and social-viral features.

There are few moments as fulfilling as working on a new feature for two weeks and then witnessing the following day how three million players are happily delving into an instantly revitalized game. This new dialogue between developers and gamers is not only changing the way games are made—and motivating developers to make even better games—it's ensuring that players will stick around. ❇

**Now the challenge of game designers is to craft an enjoyable, addictive game that also employs all the new innovations that come with gaming as a service.**

# The Launch of Hidden Variable Studios

## One Developer's Hopeful Journey

**Back in 2010, it was easy to see our industry** was evolving. An increasing number of success stories were coming from smaller scale projects that were self-published on mobile devices with huge installed bases. Looking to the future, it was clear that as console development veterans we also had to evolve. We saw the tremendous growth in the mobile industry, and we had always dreamed of starting our own company. The dream was there, the time was right, and before you knew it—Hidden Variable Studios was born.

Our core vision was to create games that revealed the fun and fantastic in the everyday world around us—something that was very different from many of the escapist types of games that are on the market.

That said, it was no easy task. There were so many questions to be answered and challenges to overcome. Do we work from home or get an office? How many team members do we need and how do we convince them to take the leap to join our team? Do we adhere to a traditional waterfall production process or try agile development for the first time? How do we market the game and stand out from the crowd? What platform(s) do we develop for and why? And that was all before we had even selected what game we wanted to make! Figuring out who we were and who we wanted to be as a company seemed like a good place to start.

### First Things First

When we founded the company, we knew that we wanted to be different. Our core vision was to create games that revealed the fun and fantastic in the everyday world around us—something that was very different from many of the escapist types of games that are on the market. We also wanted our brand to *always* be associated with a high-quality, polished experience, and we were eager to create our own IP to leverage our experience and maximize our opportunities for other media and revenue streams further on down the road. Once we had the vision and philosophy finalized, we knew that we needed to get cracking on working on our first title!

But first we had to settle the debate over whether to be fiscally prudent and start a company from our own garages or to get a "real" office. After reviewing the pros and cons of both options, we finally decided that it was best for us to secure a small office loft. This was important to us because we really wanted to create an environment of collaboration, transparency, and vibrancy that allowed our employees to lean over each others' shoulders (sans cubicle walls) and say "What if we…?" Furthermore, an office setting really sets a tone of professionalism and commitment that working from a bedroom just can't match. Focus is also easier to maintain in a "work setting." It is so easy to get distracted when working at home. That kind of atmosphere is not re-

by Amos Marvel;
*Co-founder, Hidden Variable Studios;*
**North Hollywood, CA**

ally conducive to team building (unless the team happens to be your roommates).

Of course, we also needed to build the team. Unlike a lot of companies that start with a programmer and an artist, we had none of those skillsets accounted for at the get-go. (Our backgrounds were in design, production, finance and operations.) It is almost impossible to make a game without art and programming (although it has certainly been attempted before!), so our first order of business was finding the right people. As eager as we were to start making a game, we didn't just want to start bringing in warm bodies. We really wanted to make sure not only to hire talented individuals, but also to ensure that they fit the core culture of the studio. It took some time, but over the course of many months we gradually grew to a solid core of six employees (with various independent contractors as needed).

### Agile vs. Waterfall Production

Having come from multi-year production cycles, we had all experienced many of the common problems that come along with the traditional game development process: long hours, lack of time to polish, poor prioritization, and hasty decision-making (to name a few). We knew we wanted to do something different—something sustainable. We had heard a lot of good things about agile development but until you try it, there's no way to really understand how it works. Reading a book or two on it just solidified our confidence in the advantages of the agile process, so we spent a lot of time adjusting our past tendencies and truly learning how to be agile. We even attended a certification class and received fancy certificates denoting our new-found "agility"!

Certificates aside, agile really allowed us to be flexible and develop a living product that evolved over the course of many months. It allowed us to work in smaller iterations, course correct regularly, and prioritize the things we thought were most important to the end user. Fortunately, we had a wonderful product owner who maintained a strong vision for the game, and that allowed us to really focus on finding the fun.

As with any game development cycle, there were a million things the team wanted to put into the game. We had to force ourselves to be disciplined. One key was identifying a Minimum Viable Product (MVP). The idea behind an MVP is to distill your game down to its barest essentials. What things would a customer absolutely expect in the game, and what extra things would be simply nice to have? Agile provided a system that enabled us to prioritize so that we always were working on things that gave us the biggest bang for our buck. Our wish list is still huge, but that's what future updates are for!

### Pricing

When we started the company, we knew that we would be releasing a content-rich, high-quality game, and therefore we intentionally chose to have a premium price point. While we knew we couldn't lock down a price until we neared completion (due to the ever-changing market), we figured we would be in the $0.99 to $4.99 range. However, the market was

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moving quickly and price compression seemed to be happening even more quickly.

When we attended Casual Connect Seattle in July of last year, there was no ignoring the overwhelming message conveyed by the many speakers who talked about the rapid change in the pricing and revenue models. They repeatedly cited recent data released by Flurry Analytics which showed that in January of 2011, 39 percent of revenue generated for the top 100 grossing games in U.S. App Stores came from freemium games. However, just six months later that figure had increased to 65 percent. You can imagine our concern that we were setting ourselves up for possible failure by releasing a premium game in a market that was leaning more and more towards freemium for revenue generation.

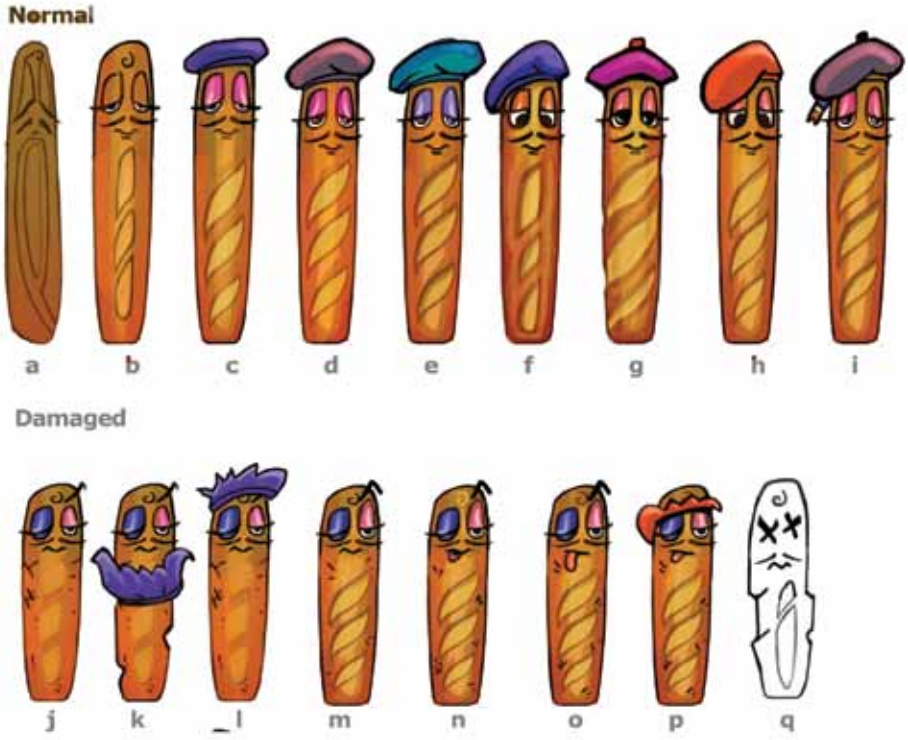
However, we knew that we simply did not have the resources to be able to properly implement IAP and ad-supported mechanisms in time for us to release the game as planned. We stuck with our gut that the game was going to be a high-quality experience, that it was unique and offered a lot of replay value, and that consumers would respond favorably. We decided to launch our product and then explore a lite or freemium version within a few months after our initial launch.

Our first priority—always—was to make a great game. While it was temping to try and shoehorn in a monetization strategy, we did not want to compromise gameplay by forcing a square peg into a round hole. We firmly believe that micro-transactions should not get in the way of gameplay; rather they should be something that enhances it by offering new opportunities to the player. Once our pricing strategy was locked down, we knew that we had to really focus on our marketing efforts in order to promote *Bag It!*

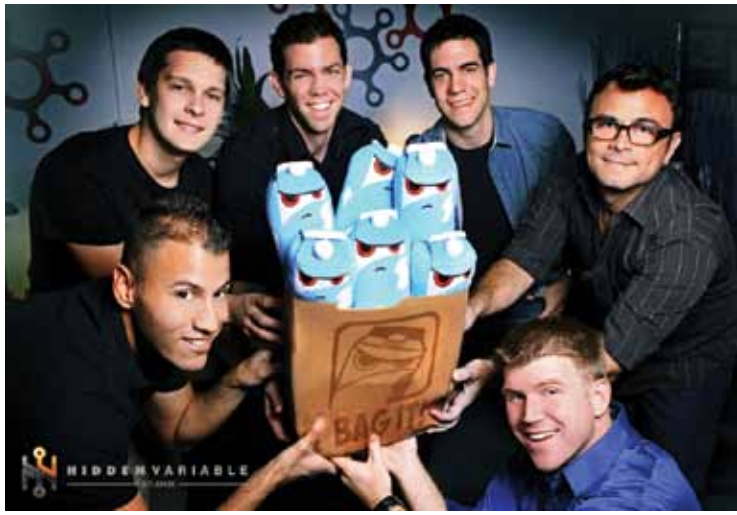
## Marketing

Right from the beginning, we dedicated a lot of time and resources to market research. This included networking and pinging every developer who would speak to us. Many developers selflessly shared their experiences with us to make sure that we didn't fall into any of the traps or pitfalls they had experienced. We couldn't have adequately prepared without their knowledge, assistance and guidance.

Additionally, we constantly discussed evaluating the best platforms upon which to initially launch our game and the potential porting opportunities thereafter. We also had to consider strategic partners, professional PR, and advertising firms. All of those avenues were beneficial and contributed to our success by managing the marketing timeline and helping us sleuth out the best seasonal and regional promotions.




All of the varieties with the beret. We ended up never using the beret.




The 6 HVS team members who made *Bag It!*

Even with all of this "homework," we're still constantly trying to respond to the ever-changing market and make sure that we're exploring every possible marketing opportunity we can. This has included altering our price on specific platforms, exploring new platforms to distribute the game (Amazon and the Barnes & Noble NOOK), and attending conferences to network with potential partners.

We also decided to work with a PR firm to promote our initial launch. This has proven to be a very fruitful decision. With the firm's help, we received the sort of publicity that we could not have achieved on our own as a small startup. Case in point: *Bag It!* was featured as one of the Top 10 Game Apps of 2011 by *Entertainment Weekly*.

In addition, we are always listening to our players. We included a feedback button in our game so they can communicate with us directly, and we per-

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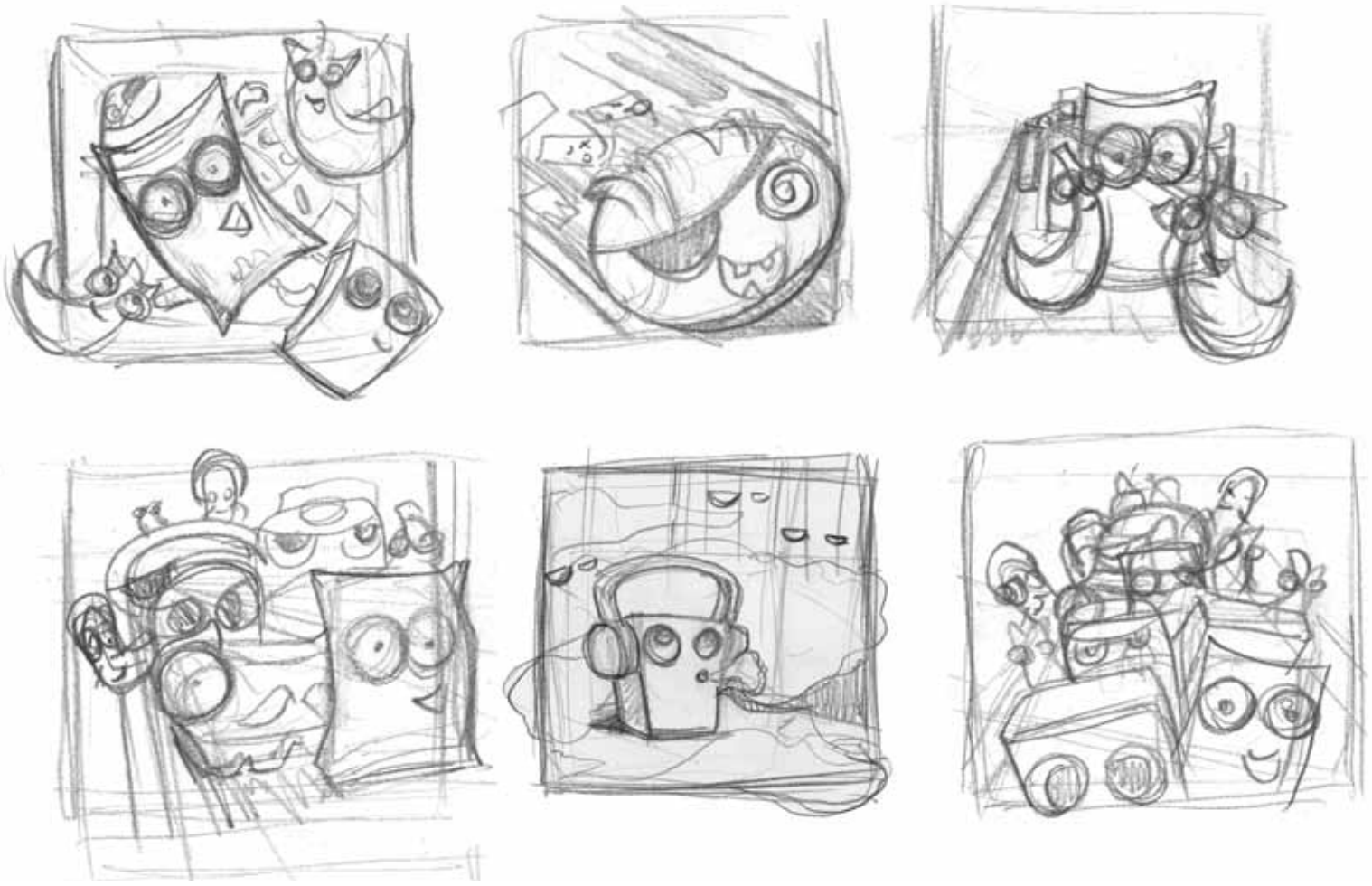

Level sketches

sonally respond to every single email, Tweet, FB post, or YouTube comment that we receive. Marketing is a full-time job that we gratefully embrace in order to make sure that we maintain a synergy of coverage and good exposure.

## Localization

Examining how to gain more exposure and players also factored into our final decision about whether or not we would localize *Bag It!*. At first, we were not sure if localizing the game would provide a very good return on our investment. We had talked to many of our developer friends, many of whom had tried to localize but with little success. At the same time, we knew that if we could tap into our worldwide audience, we would be opening up new doors for additional revenue. We reached out to the IGDA Localization SIG and localization vendors while also doing basic research on the Internet. All of the data points provided a variety of responses ranging from "utter failure" to "cash cow" stories. It was a mixed bag of feedback.

Ultimately, we decided that we would localize the game in seven different languages, but we would wait to do it until after our initial launch. Confident in our plan, we first released *Bag It!* in English-speaking countries on November 17, 2011 and then dove into localizing the game.

## The Global Marketplace

From attending a panel at GDC Online, we learned that many countries had differing forms of distribution for both iOS and Android. For example, in China the Android app market is fragmented with countless app stores and a variety of different billing solutions. In Japan, customer service and responses to reviews are highly valued, and having a partner who can respond to these requests was imperative. With this data from just a sampling of countries, we knew that we had to find distribution, payment and customer service allies.

**We firmly believe that micro-transactions should not get in the way of the gameplay experience, but rather be something that enhances it by offering new opportunities to the player.**

We also had to determine the global price-points for our game. In China, a significant majority of the gaming market is driven by free, ad-supported games with in-app purchases. Knowing that the second largest smartphone market in the world

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Initial concepts of *Bag It!* main character

required this, and concerned about the rise in piracy, we accelerated the development of an ad-supported version of our game. Given the limited timeframe available to us before the end of the year, this decision presented a huge challenge for a small studio. We now knew that we had to localize the game into seven different languages *and* implement a system for advertising concurrently. The task list seemed endless and the overall timeframe was unforgiving, especially considering our limited resources. That said, we felt that with the upcoming holidays we had no other choice but to set an aggressive internal deadline and finish up before the end of the year.

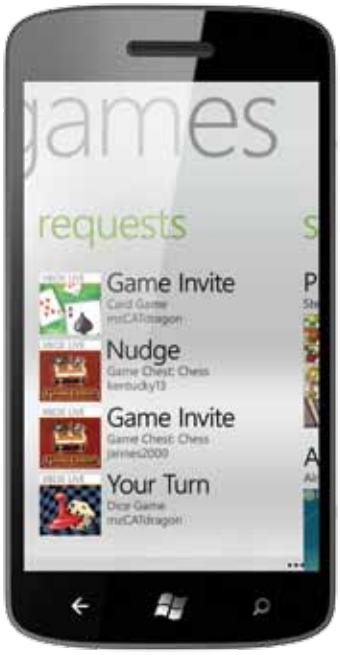
We also had cultural considerations that added to the growing pressure of our impending release. As a Western developer entering foreign markets with characters that were based on U.S. supermarket products, we had to analyze how to make the game feel local. For example, we noted that when *Fruit Ninja* was localized for China, Halfbrick Studios added a new fruit (a peach), a Chinese zodiac background and the Fire Cracker Knife to their game. While it seemed easy enough to say that we could add similar localized elements, the associated financial costs—and the time required—to produce the art also had to be considered. Adding one new character seemed reasonable, but making one for every country would quickly become a fiscal impossibility. Therefore, we decided to launch the game with localized translations first and then decide whether to include additional localization changes in subsequent updates. Despite a condensed schedule, our team delivered on all fronts, which further confirmed our earlier efforts at hiring the right people. Localized versions of *Bag It!* were successfully released on December 15, 2010—less than a month after we launched the game in English. We were now global.

## Conclusion

It's been a rollercoaster year for us as we delved into starting our own studio. The plethora of decisions we had to make—from pricing to distribution to future opportunities—took a mammoth effort from our entire team. In light of the incredibly positive reception of gamers worldwide, we feel like we've created a solid foundation from which to grow our business. These experiences helped us create a foundation for exploring additional IP and partnerships that will serve us well in the months and years ahead. ❊

# Putting Games First

## Developing Games for Windows Phone and Xbox LIVE




Connected gaming with Xbox LIVE means players can play their favorite games with others even if they're not online at the same time.

**Game developers are tireless in their pursuit** of the prize: delivery of quality gaming experiences to as many eager players as possible. The combination of Windows Phone and Xbox LIVE can help developers accomplish this goal.

Windows Phone provides a powerful, people-centric experience. As a consequence of a committed partnership between Microsoft and world-class phone maker Nokia, Windows Phone is poised to become an integral part of game developers' distribution strategies.

**With a host of new cloud-powered services rolling out to Windows Phone games on Xbox LIVE—including multiplayer and cloud storage—games can deliver experiences that are richer and more rewarding than ever before.**

Xbox LIVE is available on every Windows Phone. Along with a host of valuable gaming services, Xbox LIVE's curated portfolio delivers 60 percent of paid app and game revenue across the Windows Phone marketplace. And with a host of new cloud-powered services rolling out to Windows Phone games on Xbox LIVE—including multiplayer and cloud storage—games can deliver experiences that are richer and more rewarding than ever before.

### The Xbox LIVE Experience

The first Windows Phones from the Nokia-Microsoft partnership came to market in 2011. The user response has been very positive: In a recent satisfaction survey, Windows Phone bested Google's Android. Nokia is now committed to Windows Phone for all upcoming smartphone releases. This commitment combines Nokia's existing base of hundreds of millions of users with Xbox LIVE's base of 35 million users to create a large audience for new games.

Scale can bring saturation, but Windows Phone with Xbox LIVE provides a solution. Unlike other platforms where a carefully built game might simply be left to try its luck among a pool of generic applications, Windows Phone provides a premium gaming experience where the best games can shine with top-tier positioning and powerful, connected features.

The key to making great games stand out is Xbox LIVE, the social entertainment network for Xbox 360 and the Web, now built into the Windows Phone experience. The Xbox LIVE Games Hub on Windows Phone puts games first, providing users with a dedicated discovery experience and in-game features such as achievements, leaderboards, downloadable content, and multiplayer gaming.

The Games Hub itself is accessible from the main screen of the phone, pre-installed on every Windows Phone. Signing in with a Windows LIVE ID will automatically pull up the associated Xbox LIVE Gamertag, avatar, friends list, and messages. Users new to Xbox LIVE can create an account on the spot or continue as a guest. Players can see their avatars and, with the free Xbox LIVE Extras add-on, can dress up their avatars with avatar items and purchase new items right from the phone. Players can view their achievements, message friends, and respond to game invite requests. Xbox LIVE games and trials are available to download on the Games Hub. A spotlight feature highlights new and interest-

ing games on a rotating basis. As players choose games for download, the Games Hub maintains the games in a collection for easy replay. These advantages pay big dividends to games: Xbox LIVE games are responsible not only for more than half of the revenue of all paid apps and games on the Windows Phone Marketplace, but also drive 30 percent of total revenue per socket.

Xbox LIVE-enabled games on Windows Phone also get a host of other services that are proven favorites with gamers. Achievements are unlockable awards that developers can put inside their game to increase players' Xbox LIVE Gamerscore. Leaderboards allow players to track their high scores or other vital competitive statistics against their friends and other players around the world. And downloadable content delivered through Xbox LIVE Marketplace gives developers the opportunity to deliver continued value to gamers. Within the Marketplace, gamers can make purchases of consumable items such as health potions or special weapons, or durable items such as map packs or new character types.

These features, available to any Xbox LIVE title for Windows Phone, ensure that gamers feel rewarded for their game-play and drive deep loyalty to games through competition, sharing, and consistently fresh content experiences.

The Xbox LIVE Games Hub on Windows Phone gives gamers a central place to play

by Charles Cox;
*Program Manager, Microsoft;*
***Redmond, WA***

## Game Anywhere

Connectivity is a core component of today's gaming, whether through multiplayer play or connected data. Xbox LIVE is lighting up connected scenarios for Windows Phone games with an exciting new set of multiplayer and persistence technologies.

Through a set of exposed RESTful web calls, Xbox LIVE makes it possible to find, join, and participate in multiplayer sessions across any Xbox LIVE-enabled device. Games of any size or genre can benefit from this service; sessions can play out in near-real time or can persist over long periods of time in the case of turn-based games. Imagine playing your favorite game with friends from any Xbox LIVE-enabled device you turn on, whether it's an Xbox 360 console, a Windows 8 PC, or a Windows Phone. For casual games, these services simplify many of the tasks most important to the multiplayer experience—including matchmaking—leaving developers free to focus on driving game content to their players.

Cloud storage is another service that developers will soon be able to use for in-game data, such as saved games, stats, and player customizations. This service, designed to function invisibly to players, gives them the reliability and flexibility to play their favorite games reliably on any Xbox LIVE-enabled device by simply picking it up and continuing where they left off. In addition to strengthening the core scenario with persistent data in the cloud that roams with the player, the opportunity exists to provide persistent data across platforms. Playing a game on Windows Phone, then playing a made-for-Xbox 360 experience on the console that shares the same data, is now a reality.

## Opportunity

These premium features are available to games that are enabled on Xbox LIVE in a curated program designed to showcase the very best titles on the Windows Phone platform.

Traditionally, titles seeking representation in the Xbox LIVE portfolio begin a conversation with Microsoft through a publisher. Recognizing that independent developers who may not have publishers are also producing quality titles for Windows Phone, Microsoft Studios invites *any* developer with a game, a proof of concept, or even a game design that might fit well within the Xbox LIVE family, to start a conversation by sending an email to mobilegames@microsoft.com. ❊

**Playing a game on Windows Phone, then playing a made-for-Xbox 360 experience on the console that shares the same data, is now a reality.**

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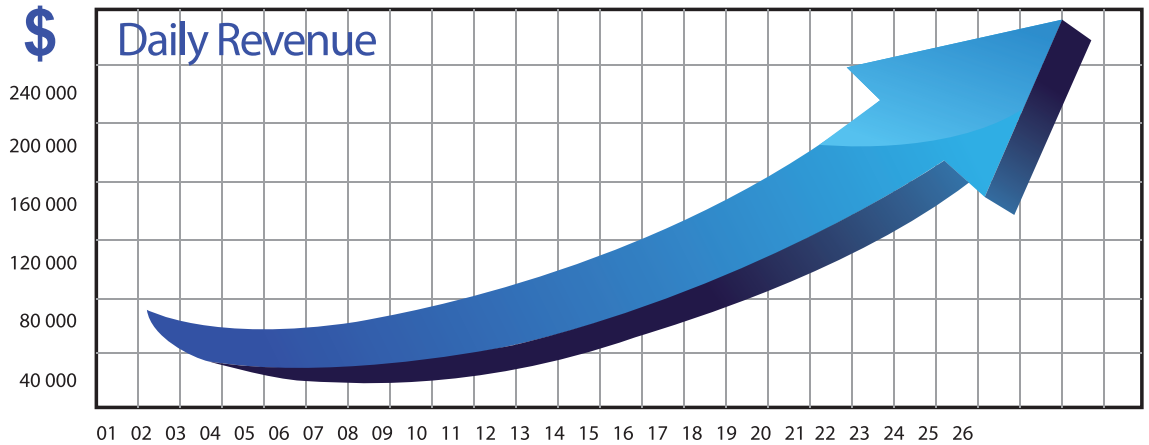


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by David E. Weslow;
*Attorney At Law,*
*Wiley Rein LLP;*
***Washington, D.C.***

# Who Owns "My" Code?

## Hint: It May Not Be Who You Think

*This article provides general information about legal developments and should not be construed as providing legal advice or legal opinions. You should consult an attorney for any specific legal questions.*

**Development of game software** (and most types of software) often involves work by employees of multiple companies as well as work by contractors. Most companies are familiar with the need to enter into a contract specifying the nature of each company's rights in the product under development so as to avoid an unintended division or sharing of intellectual property ownership in the product. It is also important to be fully aware of the need to clarify and limit the potential rights of contractors working on development of the product. Under U.S. law, in the absence of contractual language to the contrary, work by two entities on a product can result in joint intellectual property ownership. What's more, an independent contractor may retain intellectual property ownership rights in code that they have developed.

### I. Employee or Independent Contractor

The U.S. Copyright Act provides that copyright ownership "vests initially in the author or authors of the work." A work, including software, will be considered to be a "work for hire" owned by a person's employer if the work is prepared by an employee within the scope of his or her employment.

If the work was not prepared by an employee within the scope of his or her employment, the person may be deemed to be an independent contractor who retains copyright ownership rights in the work.

To assess whether a hired party should be considered an employee or independent contractor for copyright ownership purposes, U.S. courts look to general principles of agency law. This inquiry involves examination of the following non-exclusive factors: the skill required; the source of the instrumentalities and tools used for development; the location of the work; the duration of the relationship between the parties; whether the hiring party has the right to assign additional projects to the hired party; the extent of the hired party's discretion over when and how long to work; the method of payment; the hired party's role in hiring and paying assistants; whether the work is part of the regular business of the hiring party; whether the hiring party is in business; the provision of employee benefits; and the tax treatment of the hired party.

An independent contractor may retain intellectual property ownership rights in code that they have developed.

The foregoing factors are balanced and no one factor will automatically be deemed to determine the status of the hired party. If the overall nature of the parties' relationship indicates that the hired person was an independent contractor rather than an employee, and there is not a clear contract specifying otherwise, the hired party may be deemed to

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retain *exclusive* intellectual property ownership rights in the developed software. Such a determination could provide the hired party with grounds for precluding the hiring company from using the developed work and/or grounds for requesting further compensation.

### II. Joint Authorship

When there is more than one participant in the development of a copyright-protected work, the resulting work may also be considered to be a "joint work" under U.S. law if the work was prepared with the intent that the respective contributions be merged into "inseparable or interdependent parts" of a unitary whole.

U.S. courts typically determine whether a work is a joint work based upon the intentions of the collaborators at the time of the collaboration and based upon the respective levels of contribution to the work. Significantly, joint authorship can arise by default when there is no contrary agreement between the parties.

When a work is deemed to be a joint work, the joint authors retain the rights of "tenants-in-common" in the joint work and will share equally in ownership and royalties for the work even if one party contributed less than half of the joint work. When joint authorship exists, because each co-owner of the work has the rights of a tenant-in-common, there can be no actions for copyright infringement by one co-owner against another because one cannot infringe his own copyright. A co-owner can license the entire work on a non-exclusive basis without the consent of the co-owner(s), but must account to the other joint owner(s) of the work for a share of all profits made from any use of the work.

### III. Avoiding Unintended Intellectual Property Ownership

Contractual language can be used to clarify the intended ownership structure between multiple companies that are working on a particular project. Joint development contracts should specifically address the parties' "intent" regarding copyright ownership of the project so as to limit the possibility of future disputes regarding joint authorship of the work.

Clear contracts should also be used with all independent contractors to lessen the possibility that an independent contractor could in the future argue that he or she owns intellectual property rights in the work and that he or she is entitled to further compensation to assign such rights. Because a U.S. court may examine the nature of a company's relationship with a hired party in the event of a dispute concerning intellectual property ownership, the following guidelines may be useful in evaluating and structuring such relationships.

All independent contractors should have a written contract clearly defining the project and specifying the relationship, payment, and expected result.

Open-ended contract periods can be deemed evidence of intent to create an employer-employee relationship if the engagement will continue indefinitely. It is generally preferable to link the length of the engagement to completion of the specified project or a specific deadline.

All independent contractors should have a written contract clearly defining the project and specifying the relationship, payment, and expected result.

Benefits such as health care, insurance, vacation pay, bonuses, stock options and incentive programs can also be deemed evidence of intent to create an employer-employee relationship.

Inviting independent contractors to holiday parties, summer picnics, employee softball games or other events can evidence a failure to distinguish between independent contractors and employees.

Finally, in the absence of a clear contract, it can be difficult to substantiate that a worker is an independent contractor if he is performing the equivalent functions of an employee and working side-by-side with employees.

### IV. Conclusion

There can be significant repercussions from ownership and joint-ownership issues in the absence of clear contracts between companies involved in joint development projects and between all contractors working on such projects. If a hired party is found to be an independent contractor working without an appropriate contract, under U.S. law he or she may own the intellectual property rights in the developed code. Similarly, in the absence of a clear contract addressing all involved companies' "intent" regarding intellectual property ownership, a project may be deemed to be a joint work that is jointly owned.

The uncertainties and risks associated with the above described "default rules" under U.S. law can and should be addressed through clear contracts that specifically clarify the rights of all involved in the project. ❊

# Now We Are Talking

# The Making of *Kingdom Rush*

**When we started brainstorming *Kingdom Rush*, we decided we wanted to create a defense game that had actual battles, with a perspective that allowed the characters to have more personality. We also wanted to include new mechanics and fun stuff (like Easter eggs) that would give the genre something new or fresh.**

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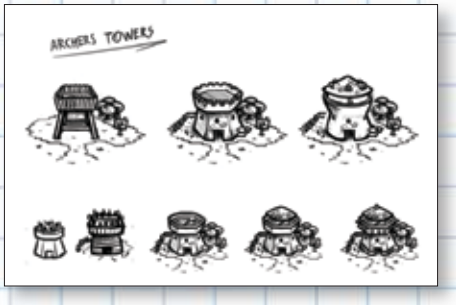


## Inspiration for *Kingdom Rush*

We decided the game should have a fantasy setting since that was the most appealing to us (as we hoped it would be to the audience). We took inspiration from multiple sources we liked: fantasy games, movies, pen and paper RPGs, etc. The *Warcraft* series, *The Lord of the Rings* and *Dungeons & Dragons* really influenced our concept of what a fantasy setting should be and served as a source of inspiration during the whole development process.

For game-play mechanics, we got a lot of inspiration from other games of the genre (of course), but we drew upon strategy games as well. One of the things we like about strategy games is how engaged players get while playing them, and we wanted to bring some of that engagement to *Kingdom Rush* so we added ways for the players to interact and be part of the battle.

Even so, although we were inspired by many factors, beginning with the concept and continuing throughout development, what inspired us the most was the idea and challenge of creating the game we wanted to make.

## What We Learned

*Kingdom Rush* taught us a lot of things about game concept, development and even marketing. We started making the game with a pretty good idea of what we wanted, but we didn't really begin with an understanding of how to get there.

**ALVARO:** In the process of developing the game, I learned a lot about game balance, pacing and design (among other things). More than anything, I learned that it is very important to polish the game as much as you can. Making sure everything works as expected—with easy-to-use interfaces, tutorials, custom music, voice talent, Easter eggs, etc.—really adds to the value of the game and improves the overall user experience.

**PABLO:** Working on games is way different than working on IT. Most important for me was learning how to make a game with a long development cycle from concept to release—and learning all the things you need to pay attention to along the way. When working in a small team, it is very important to stay focused, motivated and to trust in the product you are making.

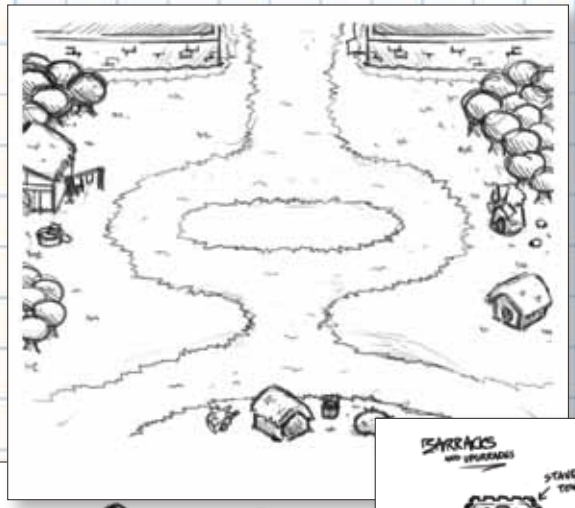
**GONZA:** One of the things I learned was the importance of the details and the little touches that made each element of the game unique. Giving life and personality to the towers and enemies while maintaining a high level of simplicity was a tough, but satisfying experience. I believe taking the necessary time and dedication to focus on the details are keys to achieving a great product.

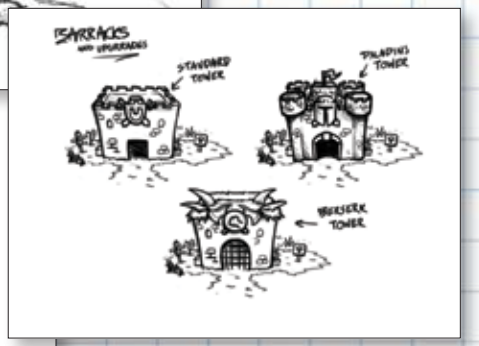
## Telling the Story

Creating the game map and storyline was one of the fun parts. Since we used to play a lot of pen and paper RPGs, we felt like we were creating the campaign map for an adventure. We thought it was best to show progress through a story, so we created the basic storyline that made the player go through several stages and terrains, and then we created the map for it. We think that having a map is great because when you start the game you can see all the places you "might" go. As you start wondering what could happen in the Stormcloud temple or in the Coldstep Mines, your imagination feeds on the ideas.

We started with a very basic map that had plains, a forest, evil lands and a mountain range to separate them. Next we placed the stages within the map and made each a landmark based on what we wanted to happen there. Finally, we added some distant lands and additional locations to fill in the gaps. Of course, the map went through several changes during development, but the final map is very similar to the first draft.

The story is told via the descriptions of each stage. For the ending we thought we needed to add something more rewarding than plain text, so we came up with a simple comic that we think is a good finishing touch for the game. It reminds us of old arcade games endings.



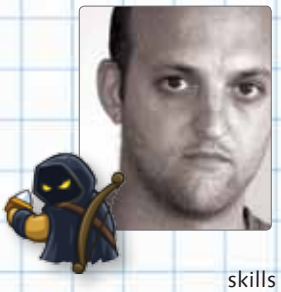


**Gonzalo Sande / gonzasan**

Wanderer from the most remote wastelands, he has walked through the valley of the shadow of death and emerged untouched. His ability to wormhole-travel with his mind makes him a dreadful enemy. In blackest day, in darkest night, you'll probably find him in some old school SCUMM style pub, imbibing gargantuan amounts of Grog. Great scott!

**Alvaro Azofra / Vanzen**

Legend has it that when a tsunami hits the coast of some exotic, distant land, it was merely him deciding what kind of socks to wear. Master of the Dark Arts, no opponent has been able to look him in the eye without perishing in the most unpleasant of ways. When everything goes straight to hell, his calm and serenity remain as steady as a senior surgeon.



**Pablo Realini / Lito**

The most fearsome man in the whole kingdom, his fists deliver waves of heavyweight nuclear explosions with deadly purposes. Imbued with unknown amounts of high voltage energy, his mere human origin is seriously questioned. His sublime mimicry skills roundhouse kicked the fearsome Shang Tsung out of the mirror spell ranks.

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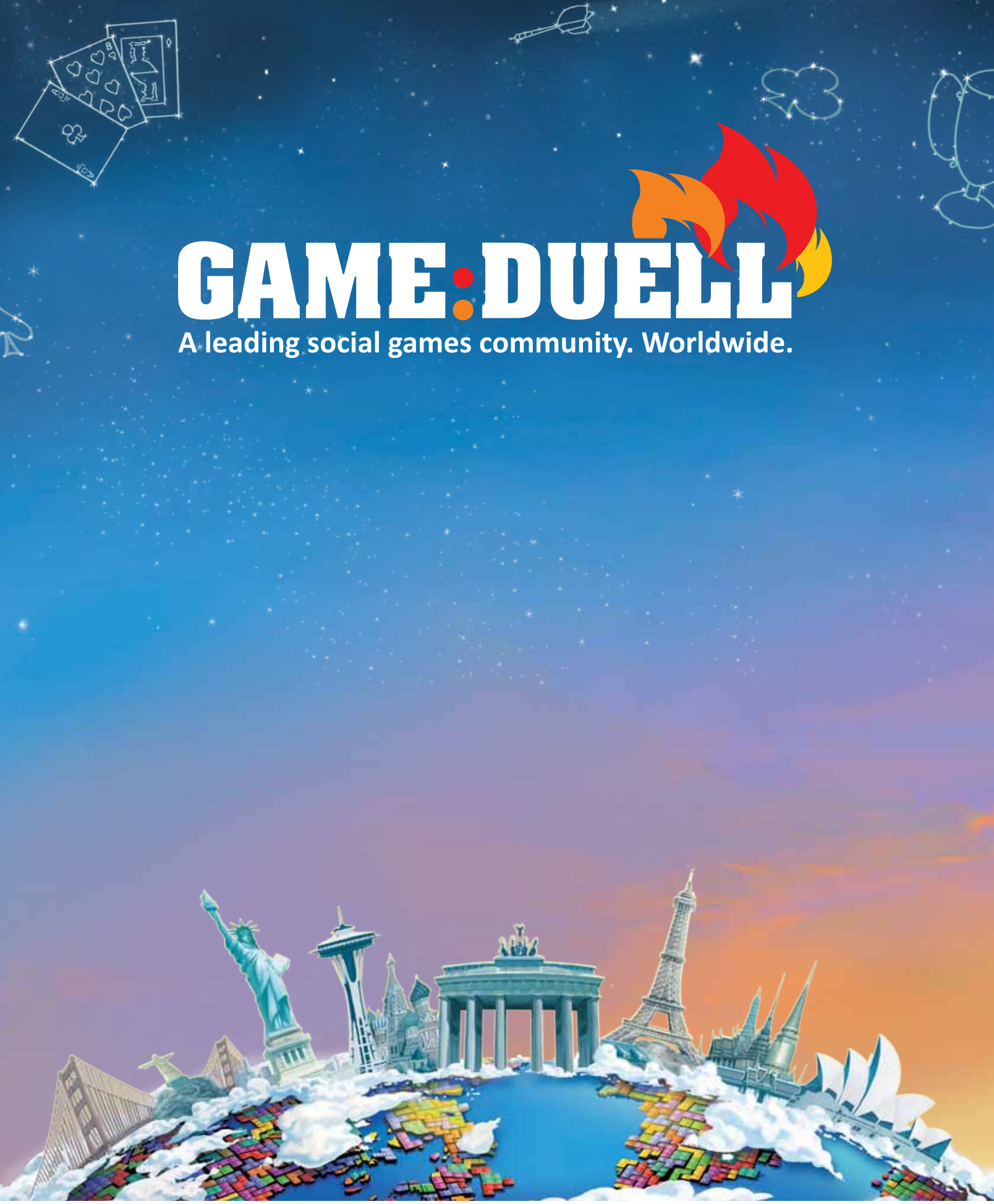
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